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LARGE-SCALE DEVELOPMENT in New York City

COMPREHENSIVE PLANNING WORKSHOP

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LARGE – SCALE DEVELOPMENT
in New York City

1664

John V. Lindsay, *Mayor*

John E. Zuccotti, *Chairman*
New York City Planning Commission
2 Lafayette Street
New York, New York 10007

OCTOBER, 1973

The preparation of this report was financed in part through a comprehensive planning grant from the Department of Housing and Urban Development.

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THE CITY OF NEW YORK DEPARTMENT OF CITY PLANNING

CITY PLANNING COMMISSION

2 LAFAYETTE STREET, NEW YORK, N.Y. 10007

FOREWORD

The City Planning Commission has recently inaugurated a series of workshops as part of its ongoing process of comprehensive planning. Representatives of civic groups, professional organizations, Community Planning boards and other public agencies will meet to discuss fundamental issues of planning in New York City. The community development workshops will examine large-scale development, urban renewal and neighborhood preservation.

Each workshop centers on a workbook which provides information and frame issues. The books are designed to stimulate ideas and elicit responses. Each workbook ends with a policy alternative section rather than a conclusion. These should be springboards for discussion. The workshops will refine concepts, analyze strategies and propose policies on the major issues raised in the books.

The workshops' policy recommendations will arise from public discussion representing a broad range of interests and expertise. The Planning Commission will use these recommendations in preparing a comprehensive planning policy report on the subject of each workshop. These reports will reflect but not necessarily reproduce the workshops' input. The Commission will hold public hearings on each report.

If adopted, these policy statements will be sent to the Mayor, City government officials, Community Planning Boards, civic and professional groups, the press, and all interested citizens. Having evolved through public consultation and citizen participation, the reports can have an impact on City-wide policies and actions.

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TABLE OF CONTENTS

PART 1: Large-Scale Development Issues and Information 1

Chapter 1: The Purpose of This Study 3

Chapter 2: The Theoretical Background 13

Chapter 3: Building a Large-Scale Development 19

Chapter 4: Designing a Quality Environment 25

Chapter 5: The Developer's View - Reducing Housing Costs 33

Chapter 6: The City's View - Fundamentals of Community Development 49

Chapter 7: Environment - Problems and Possibilities 61

Chapter 8: Social Settings and Policy 69

PART 2: Site Analysis 77

Bronx 82

Brooklyn 86

Manhattan 98

Queens 112

Staten Island 120

Comparative Evaluation of Large-Scale Development Sites 128

PART 3: Policy Alternatives 133

Appendix 144

PART 1

Large-Scale Development Issues and Information

CHAPTER 1

THE PURPOSE OF THIS STUDY

- What is large-scale development?

- Why should we study it now?

- How can citizens participate in the development process?

- What is the City's interest in large-scale development?

- What is the scope of this workbook?

A Workbook on Large-Scale Development

New York City has worked actively on its housing problems for three decades. We have produced record volumes of new construction in urban renewal areas. In the past two years alone, the City started over 40,000 units of public and publicly-aided housing. City policy has recently emphasized housing maintenance and rehabilitation. In addition, we have attempted to stimulate and guide the private sector's activity.

Yet any government should constantly re-evaluate its housing policies and search for better solutions. To the three components of the City's housing strategy (publicly-aided construction, maintenance and private sector guidance) should be added a fourth - large-scale development. The City has never formulated a policy on large-scale development, so neither its potential nor its difficulties have been fully appreciated.

This workbook provides a framework for evaluation and decision, not only as a guide for future City policies, but also as a useful document for developers, community groups and City agencies. The workbook also evaluates various potential large-scale sites. It lays the foundation for a continuing planning process that will encourage desirable proposals and discourage undesirable ones.

Large-Scale Development Defined

A large-scale development is a comprehensively planned residential community with supporting facilities - recreational, educational, commercial, health, and so on. Large-scale development means more than housing but less than an economically self-supporting town. It can be several apartment buildings on the waterfront with stores, a promenade and marina; or it can be a much larger project that includes office and industrial space, schools and parks as well as housing. A large-scale development differs from a large housing project to the extent that it functions as a community for its residents.

Clearly there is no single precise definition for large-scale development. Such projects can be built in a range of locations and their characteristics will vary accordingly. We established two criteria for studying potential large-scale development sites: ten or more acres in size, or large enough for 1,500 dwelling units; and vacant or underutilized land. This led to the selection of over forty study sites throughout the City.

Theoretically, a large-scale development could be built on any of these sites. Yet practically, only some lend themselves to comprehensive community development. They can only be successful residential environments if they include schools, access to jobs, shopping, open space, utilities and transit facilities, but these needs cannot always be fulfilled at a reasonable cost, whether social or financial. Other sites are inappropriate for housing because of competing land uses.

We have analyzed these sites in order to demonstrate how the principles of large-scale development can be evaluated in realistic terms. Most of these sites have been studied before by City agencies, community groups or private developers. The workbook attempts to place them in a broader context so that City-wide policies on large-scale development can be created. An understanding of basic principles should precede their application to specific sites. Thus the text of the report concentrates on information and broad issues.

The Need for Study

Our existing strategies offer limited opportunities for housing production. The transitional renewal program is slow and costly. The moratorium on Federal subsidies radically impairs the City's ability to continue volume construction of low- and moderate-income housing, and the nature of future Federal programs is unsettled. Maintenance programs and infill building cannot meet all our housing needs.

On the other hand, the opportunities for large-scale development continue to expand. Many legal, technological and economic obstacles have disappeared. Changing land use and value and new funding sources increase the feasibility of this type of housing development. Moreover, contrary to common assumptions, New York has considerable land available for development and redevelopment, even in built-up areas.

Planning Frameworks and Choice

Because of growing opportunities, the City is faced with consistent pressure for large-scale development. Proposals are made every few months by private builders, public agencies or civic associations. Once an inadequate scheme gains momentum, it causes great problems for everyone. The community group is urged to accept a plan it finds unsatisfactory. The developer struggles to save his investment and commitments. The City wants to mediate, but its power to recommend alternatives is limited. The situation is not conducive to sensible planning or reconciliation of differences. The solution is to head off inadequate proposals or improve them before they become set.

Large-scale development should be studied to provide a rational basis for choice. How much will a given development cost the taxpayers, and whom will it benefit? If we spend public funds for one large project, where do we take them away from? Does a particular proposal balance City-wide and local needs and increase the opportunities for desirable growth? Both government and community groups need a planning framework that allows compromise and comparative judgments.

Citizen Participation

This kind of framework can be a valuable asset for citizen groups. Any large-scale project involves negotiation and interaction among diverse interests. An understanding of the principles involved in large-scale development can lead to fuller community participation in the decision-making process. By expanding information and analytic methods, this workbook will be a tool for getting better development than is otherwise likely.

Some people may still feel that large-scale development should not be encouraged under any circumstances. It should be made clear that we are not advocating any particular City policy on large-scale development nor the development of any specific sites. Our purpose is not to promote massive housing projects throughout the City. Many of the sites seem inappropriate for housing, and not all those that appear desirable are likely to be developed.

However, a no growth policy would be self-defeating for us all. With more than half a million sub-standard dwelling units and a continuing demand for housing at all income levels, we cannot afford to remain at a standstill. Ad hoc development of large-scale sites may well occur anyway. The real policy issue is not whether development should occur, but rather, how can we guide it to serve the public interest? This workbook gives numerous examples of sites where planned development can ensure public benefits such as quality design, waterfront access, and new downtown vitality. Planned large-scale development allows the City and its residents to have a beneficial impact on the development process.

The City's Role - Balancing Priorities

The City government has special interests in large-scale development. First, we suggest that these sites cannot compete with major action areas for scarce housing subsidies. In renewal areas alone there are approved sites for over 50,000 housing units that do not have funding commitments. An additional 25,000 units are in the pipeline for non-renewal areas. Large-scale development should create housing without interfering with the City's extensive commitments to redevelopment.

The City must also be concerned with the heavy public costs of infrastructure for large-scale developments. Schools, sewers, utilities, police and fire stations are major budgetary burdens. Planning should accurately weigh public benefits and costs in relation to a rational City-wide strategy.

The lack of a comparative methodology precludes proper governmental judgment, resulting in deficient developments with inadequate facilities.

But public expense per new housing unit should not override all other considerations. The best large-scale development sites represent unique opportunities, which can bring new life and hope to the City, providing commercial and recreational facilities or turning environmental scars into public amenities. Large-scale development involves dreams as well as dollars.

Outline of the Workbook

The workbook is divided into three parts: a discussion of the principles of large-scale development; a description of more than 20 typical study sites illustrating the issues raised by development; and a policy alternative section that frames the issues.

The site analysis includes several sites now under or nearing construction because they demonstrate how the process works, where it succeeds and fails. (South Richmond is not included because it has already been the subject of a detailed report.) Table I lists the sites by borough. The number of housing units allowable under existing residential zoning is also given (as-of-right construction). Only acreage is given for sites zoned non-residential. Both total and approximate residential acreage are given, the difference being made up by streets and competing land uses. Residential acreage means that proportion of the site usuable for housing if it is in fact developed. It is important to understand that the inclusion of these sites does not in any way imply that they should all become residential developments. Indeed, the City could not afford all the subsidies and infrastructure that would be required. Moreover, any given site might more appropriately be used for parkland, commercial or industrial development. These sites are suitable examples for study, but it is not our purpose to advocate housing rather than alternative land uses.

TABLE I

POTENTIAL LARGE-SCALE DEVELOPMENT SITES

Borough and Site		Acreage		As-of Right Construction Housing Units
		Total	Residential	
BRONX				
Harlem River (Highbridge)		56	48	Manufacturing Zone
Harlem River Yards (Motthaven)	I)	70	60	Manufacturing Zone
	II)	94	80	
BROOKLYN				
Coney Island Creek		52	44	Manufacturing Zone
Floyd Bennett Field		1,282	600	Gateway designation
Fulton Ferry		50	42.5	Manufacturing Zone
Harbor Houses		12.3	12.3	Manufacturing Zone
Spring Creek		260	70	1,800
Starrett City*		152	114	5,800

*Sites under or nearing construction

TABLE I (continued)

POTENTIAL LARGE-SCALE DEVELOPMENT SITES

Borough and Site	Acreage		As-of Right Construction Housing Units
	Total	Residential	
MANHATTAN			
Battery Park City*	100	52.7	14,000
Manhattan Landing*	113	20	6,500
Manhattanville West	23.5	20	Manufacturing Zone
Sherman Creek	100	85	Manufacturing Zone
Welfare Island* (Roosevelt Island)	147	45	5,000
West 30th St. Yards	14.9	12.7	Manufacturing Zone
West 60th St. Yards	148	51	Manufacturing Zone
QUEENS			
City View	340	112	Manufacturing Zone
Hallett's Cove	68.2	48	3,500
Jamaica IND Yards	30.6	26	Commercial Zone
Sunnyside Yards	300	217	Manufacturing Zone
STATEN ISLAND			
B & O Railroad Yards	38	32	Manufacturing Zone
Fox Hills	63.3	53.8	5,000
New Lane	17	14.5	1,400
St. George Place*	36	20	2,700

*Sites under or nearing construction

CHAPTER 2

THE THEORETICAL BACKGROUND

- What is the significance of the planned environment?
- What is the connection between new towns and large-scale development?
- What kind of large-scale sites does New York City have?

The Planned Environment

Why should large-scale developments be built at all? Why not allow incremental construction to continue as it always has? The virtues of large-scale development are those of the planned environment, whose scale and complexity can meet a wide spectrum of human needs, providing recreation, education, employment, commerce and natural beauty. Moreover, a large-scale project can become a community of mutually supportive people who feel a sense of fulfillment in their neighborhood, a commitment to place.

Planning can avoid the shortcomings of piecemeal growth -- the lack of harmony, coordination, amenity and vitality. These high-sounding phrases are not without practical consequences. There are real differences between suburban sprawl and a Planned Unit Development that includes green spaces, trees, a school, and neighborhood stores all within walking distance. High-rise apartments can block the waterfront or they can frame public spaces and shoreline promenades. Streets can waste space and endanger pedestrians, or they can expand both usable space and safety by separating vehicles from walkers.

New Towns in History

The historical roots of large-scale development go as deep as the earliest efforts to build utopias. Man's vision of a "better tomorrow" has periodically moved him to leave existing settlements for virgin lands where wholly new environments could be created. These new towns became living examples of a philosophy of life. Although large-scale development in New York City will not take this form, the history of new towns demonstrates the motivations and hopes involved in trying to achieve ideal societies.

The radical social and religious philosophies of Robert Owen, Charles Fourier and Brigham Young first crystallized in new communities. Owen, an Englishman, founded New Harmony, Indiana in 1826 to demonstrate his belief that man's nature could be elevated by improving his living and working environment: good communities would make good people. Accordingly, New Harmony was handsomely designed. More important, it served as an incubator of profound social reforms. As Christopher Tunnard writes in _The City of Man_, "It was the cradle of the emancipation of women, an anti-slavery stronghold, a center of the public school system (not to mention workingmen's rights). Its influence was greater than its population, size or design." These reformers' deep determination to create "utopias on earth" colored most early new town theories.

The Garden City

At the end of the nineteenth century, the English writer, Ebenezer Howard proposed the Garden City, in which city and country would mesh symbiotically. In the United States, his concepts found expression in Radburn, New Jersey, designed by Clarence Stein and Henry Wright in the 1920's. Although Radburn never became economically self-sufficent, its advanced principles of physical design remain valid today.

Le Corbusier's futuristic city plan of the 1920's had a different effect on new town building. His Ville Radieuse prophesied super-towers rising from an endless garden crossed by modern expressways. This aesthetic vision became the basis for much post-war building in America, as in Co-op City. Unlike Howard and Owen, Le Corbusier limited himself to wholly physical concepts with no foundation in social theory.

Large-Scale Development and New Towns

Modern large-scale development in New York should diverge in some respects from the achievements of new town building. The drawbacks of past efforts center around their isolationism, their lack of connectedness to an urban environment. In a metropolitan setting, self-sufficient enclaves and satellite new towns are equally anti-social. New York's developments should provide many non-housing services, but their success will depend on a symbiotic use of the diverse economic and cultural life of the City.

Large-scale development has advantages over the new town approach to growth for New York. It encourages the reconstruction of the City, making full use of existing strengths and resources. In the past, such large developments as Parkchester and Fresh Meadows have helped maintain a balanced population in New York. Battery Park City and Manhattan Landing can be expected to have a similar appeal. By providing a living environment normally unavailable within the City, they retain people who might otherwise leave for the suburbs.

Three Types of Large-Scale Sites

Large-scale sites in New York can be categorized by their geographic relationship to the City as a whole into three types: isolated, integrated and focal.

Isolated sites are irreparably separated from the rest of the City - by rivers, highways or topography. Although they can be linked to the urban center by mass transit, such developments will never become integrated into existing neighborhoods visually, physically or socially. They must provide a high proportion of their own activity and community life but will not be economically or culturally self-contained. In this way, they are similar to small new towns with strong metropolitan ties.

Welfare Island, now renamed Roosevelt Island, has these characteristics. Despite its proximity to midtown Manhattan, it has poor access. A new subway line will eventually connect it closely to both midtown and Queens. The 5,000-unit project will provide a wide range of community facilities, but the residents will also be able to take advantage of nearby metropolitan amenities.

In contrast, integrated sites are intimately related to surrounding development. Where under-utilization or newly vacated land has made reuse possible, new development must fit into gaps in an existing community. The need to avoid adverse impact on developed areas and still meet the site's marketing constraints requires careful balancing of competing needs.

At Hallett's Cove in Queens, for example, neighborhood concerns will include density and waterfront treatment. Development of the site could rationalize mixed land uses and improve access to the shore, especially Rainey Park. Project design could probably accommodate the particular needs of this neighborhood without jeopardizing marketability.

Focal sites also relate directly to their surroundings but are more central than integrated sites. Their development can revitalize a regional subcenter with new commercial, cultural and recreational facilities. The focus that such developments can provide will often be visual, creating a sense of place and distinction for a larger neighborhood. The goals of increased activity, more facilities and visual identity can often be complemented by higher density and more striking design than their surroundings.

Development in St. George will not only expand the residential population of downtown Staten Island but will attract users from a wide area. There are two large-scale sites here - St. George Place and the B & O Railroad Yards. Planning issues here will include traffic circulation as well as the amount of commercial space.

CHAPTER 3

BUILDING A LARGE-SCALE DEVELOPMENT

- How does land become available for development?

- What legal and economic factors affect large-scale development?

- What role does government play in the process?

It is no accident that most of the large-scale sites discussed in this report have not yet been developed. Some have foundation and environmental problems; some are inaccessible or lack infrastructure; others are still occupied but with uses now considered obsolete. Together they represent left-over patches in the City's spreading growth. Various changes make their development feasible.

These include changes in land use and economics, either of the sites or surrounding areas. Advances in building technology may increase development potential. Legal factors and governmental participation also contribute to new growth patterns. A new large-scale community in Queens was made possible by the sale of a golf course. When development pressures and land values in the area increased to the point that housing was more economically feasible than the golf course, the result was the Fresh Meadows housing project.

Changing Land Use

New York's waterfront epitomizes the potential offered by changing land uses. Abandoned piers line much of the shore as shipping moves to different parts of the City and New Jersey. The City Planning Commission's 1971 study, The Waterfront, explains:

> The waterfront has actually been changing markedly for more than a decade. Many traditional maritime and industrial tenants have left to be replaced only occasionally by new tenants who can keep the shoreline lively and productive. Yet the waterfront is much too precious to be allowed to stagnate or to be exploited piecemeal. The very abandonments that have been so disturbing have opened up whole sections for redevelopment. The waterfront is now the City's most extensive, under-developed, and promising natural resource.

Residential redevelopment of the waterfront is occurring in some places, but most sites await further changes in economics or entrepreneurial interest.

New Technology

Technological changes can reclaim sites and make them buildable. For example, new methods of pile driving have made waterfront construction on platforms or landfill a routine affair. Many non-waterfront sites use air rights over active railroad yards; such construction requires platforming supported on carefully placed pilings. Marshy sites can be rendered buildable with landfill and extra pilings. Technology cannot yet solve all engineering problems - for instance, deadening the vibrations in buildings over very active rail yards - but it has increased the development feasibility of much marginal land.

Economic Factors in Site Selection

While advanced building techniques significantly increase development costs, it may still be cheaper to create new land than to buy existing sites in expensive, built-up districts. Most developments have consequently been located in areas like lower and midtown Manhattan. Waterside on the East River and Battery Park City exemplify this situation. In other cases, land values can change rapidly, as when new mass transit facilities are built. Such changes can create desirable sites on land previously unusable for housing development.

Legal Aspects

Legal problems which formerly impeded the development of waterfront sites have been largely resolved. Federal law controls navigable waterways. This means that development beyond the bulkhead line requires a Congressional amendment of the Navigation and Navigable Waters Act declaring that particular part of the waterway non-navigable. Without it, the Federal government could theoretically condemn any improvements in the waterway without compensation to the owner. Fortunately, Congress has proved amenable to passing such amendments. Battery Park City, Waterside and Manhattan Landing have already obtained Congressional clearance. The Army Corps of Engineers must also approve these projects.

Air rights development also involves legal complications. Control of air rights usually lies with the owner of the land beneath them. The rights can be sold or leased for development over the land or any improvements on it. Air rights over highways belong to the owner of the road, either the City or the State of New York. A number of large-scale sites include air rights over rail yards. The public Metropolitan Transit Authority is likely to cooperate with proposed developments over its yards, but purchase of private air rights may be more difficult.

The Basis for Public Action

Land use, building technology and market pressures are basic to the economics and location of large-scale development, yet significant changes in site circumstances do not necessarily lead to development. For example, although shipping is no longer active in Manhattan, the shore remains under-utilized. In such cases, government action and interested entrepreneurs must act as catalysts for the development process.

The need for public action on most large-scale sites puts the City in a position to provide incentives as well as guidance. When public facilities and property, legal approvals and subsidies are involved, the City has leverage it can exercise. This leverage is greatest on sites where there is a desire to build. Thus, an understanding of site feasibility is basic to any planning policy for large-scale development.

CHAPTER 4

DESIGNING A QUALITY ENVIRONMENT

- What implications does large-scale development have for design?

- How does density affect new development?

- What land use controls are available?

By its scope and complexity, large-scale development offers significant opportunities for quality design. Creating a new urban environment allows us to learn from past mistakes, separate incompatible uses, and anticipate future needs. On the other hand, failure is magnified in a larger development.

Several design innovations have appeared in large-scale developments. The treatment of open space in Sunnyside Gardens, Queens and Radburn, New Jersey demonstrate that intelligent site planning can provide superior common open areas. Co-op City devotes more than 80% of its site area to open space. In Radburn, pedestrian and vehicular traffic have been handsomely separated.

Design Control

Large-scale development facilitates design control. Sir John Nash's Regent's Park development, built in the 1820's on a royal London estate, exhibits excellent and harmonious design. Forest Hills Gardens in Queens, a recreation of Tudor architecture, has comparable stylistic consistency.

But neither a single architect nor consistency is essential to high design standards. A development plan with specific land use controls can accomplish the same thing. For example, large-scale developments can avoid visual monotony by dividing the site into several parcels, each of which have their own architectural style. Reston, Virginia and Jonathan, Minnesota use this method with better results than conventional development.

The design significance of large-scale development is that the whole can be greater than the sum of its parts. The quality of the overall environment does not depend on architectural gems, but on how buildings relate to each other, to open space, views, waterfront, traffic, transit and retail areas. The architect of a building on a single city lot never has these choices.

The Density Issue

Given these opportunities, how do we deal with specific large-scale sites? One of the great topics of our day is how dense developments should be. This problem has several dimensions - social, aesthetic, economic and governmental.

The Virtues of Intensity

It is obviously undesirable to house too many people on a site without adequate facilities, services and open space. But how much space do people really need or want? Increased density supports more community facilities and creates diversity. Jane Jacobs writes in The Death and Life of Great American Cities: "People gathered in concentrations of city size and density can be considered a positive good, in the faith that they are desirable because they are the source of immense vitality." She recommends that we "celebrate" urban density and encourage "as much variety as possible."

Private developers often use increased density to offset the costs of exceptional site preparation, additional amenities and special facilities. With a smaller number of units, these added costs can push rents up and make the housing unmarketable. Commercial facilities also require a minimum market for financial feasibility. The City consequently exchanges higher densities for amenities like recreation space and public facilities. Economic incentives favor higher density, but the public can gain in the process, too.

An Alternate View

On the other hand, there are distinguished spokesmen for the view that good housing demands more open space, lower buildings, fewer residents and less burden on community facilities. Jane Jacobs' "concentration" is Lewis Mumford's "congestion". In The Urban Prospect, Mumford decries megalopolis: "This ugly urban barbarization has been due to sheer physical congestion." Residents exhibit "symptoms of stress, alienation, hostility, sexual perversion, parental incompetence and a rabid violence."

Such arguments are heard as often in the inner city as in the suburbs. People in low-rise neighborhoods, for instance, usually dislike new high-rise buildings. Low-rise spacious site planning creates a suburban environment within the City, providing a refuge from the harshness of urban life. Economics aside, low density is as appropriate for large-scale development as is high density.

How Can We Respond?

Large-scale projects should strive to be compatible with their surrounding neighborhoods. But compatibility has different meanings for isolated, integrated and focal sites. The isolated site causes few design problems with its few neighbors. For the integrated site, over-large buildings usually offend the community. In contrast, on the focal site a dense and prominent design expresses the activity and intensity of the urban center.

The problems of open space, building height and coverage, views and access will of course be resolved on individual sites. Common and public open space should have a high priority. This includes public access to the waterfront, scenic view corridors, preservation of desirable natural features, and recreational uses relevant to the project's locale. Higher densities can add vitality and housing units to an area as well as increase congestion and arouse community antagonism. The City must carefully weigh both good and bad factors in judging requests for zoning changes.

Land Use Controls

Subject to Board of Estimate approval, the Planning Commission can change land use density and site planning regulations and adjust the site area. The two specialized tools in the Zoning Resolution are the provisions for Large-Scale Development and Planned Unit Development. Both are optional zoning designations which developers request of the Planning Commission.

Ironically, the Large-Scale Development provision is not universally applicable to our large-scale sites. While it stipulates parcels of three acres or 500 dwelling units, it facilitates the dense, high-rise construction typical in Manhattan rather than the development of low and medium density communities. The provision offers no floor area bonuses,* but it does provide significant flexibility in site planning and distribution of facilities. For example, up to 20% of the floor area of the project can be devoted to commercial uses in a residential zone. This space can be distributed throughout the development without regard for the normal complex zoning restrictions.

Planned Unit Development

The Planned Unit Development (PUD) provision is a valuable tool for large-scale projects in low- and medium-density areas. By offering floor area bonuses and allowing the developer to ignore conventional lot lines, cluster housing can be built that preserves natural site features and trees and creates more usable open space. PUD encourages both more efficient land use and a more attractive environment (see Appendix).

In 1973, the City extended PUD to R5 as well as lower density residential zones. Many large-scale sites are thus made eligible for PUD. To obtain the floor area bonus on sites larger than four acres, the developer must now provide (at no charge to the City) 15 square feet of community facility space for each dwelling unit in the project. The facilities can be a school, day care center, library or community center. Additional bonuses are granted for the enclosure of 2/3 of the off-street parking, which creates more usable open space.

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*A floor area bonus is an increase in allowable density granted in exchange for some pre-determined amenity or community facility.

Land use regulations can be an effective tool for balancing private and public gains, local and City-wide benefits. Existing incentives such as zoning changes should be used to encourage desirable development on the best sites and maximize their natural advantages. But these special zoning provisions cannot solve all the design issues raised by large-scale development. Some require more government flexibility and guidance. The Planning Commission can solve certain problems on specific sites by ad hoc negotiations with developers and community groups.

It may also be appropriate to create new zoning designations that apply to various types of large-scale development. Particular attention should be given to areas with interesting topography and views and sites undergoing development pressures. Such zoning could be applied to large-scale sites in residential areas as a mandatory provision, rather than an optional one like PUD. These provisions could regulate factors such as density, building height, infrastructure, open space and public access.

CHAPTER 5

THE DEVELOPER'S VIEW - REDUCING HOUSING COSTS

- What are the cost components in building a large-scale development?
- How can they be reduced?
- What kind of public assistance is available to large-scale developments - City, State and Federal?

The Need for a Capable Developer

To be successful, large-scale development require a special set of conditions. These include an enormous amount of capital at reasonable interest rates, a skilled developer, and the achievement of rents or selling prices at levels competitive with other housing on the market.

Large-scale development takes an extraordinary amount of time and money. A developer must purchase or option an entire site and hold it for years, sometimes more than a decade, paying taxes and other expenses while construction proceeds. The process is further prolonged because development is staged to avoid the difficulties of building and marketing several thousand housing units at once. The developer must have enough capital to cover the heavy initial outlays and continuing expenses until profits begin. In addition, only the biggest builders can amass the equipment and expertise to carry out these projects. Given these demands, it is not surprising that private developers have taken advantage of few large-scale sites in New York to date.

Components of Total Development Cost

The most financially attractive large-scale sites have relatively low development costs. Development costs include far more than bricks-and-mortar. Several elements precede actual construction: land acquisition, relocation of families and businesses, demolition of existing buildings, and site preparation, such as replacing obsolete utility connections or building an air rights deck.

An interesting contrast can be made between large-scale development and urban renewal. The basic cost components for the two are the same, but they usually differ in proportion. Land assemblage, for example, is often simpler for large-scale projects because urban renewal areas are generally in multiple ownership, whereas many large-scale sites are owned by a single entity. The Co-op City site passed from William Zeckendorf to the United Housing Foundation as one parcel. For those large-scale sites now under multiple ownership, the problems of site assembly could be greatly reduced by governmental assistance. As in redevelopment areas, the City could declare the site an urban renewal area and acquire property through condemnation.

Land Acquisition

The cost of acquisition also potentially favors large-scale development. Historical market and assessed values tend to keep prices of land in redevelopment areas above their present capitalized value. On the other hand, large-scale sites that are underutilized, marshy or under water are relatively inexpensive to acquire. Air rights, particularly over transit yards or public rights-of-way, are similarly cheap. Moreover, many large-scale sites are already publicly owned. Hallett's Cove in Queens, close to Manhattan but underutilized, has a projected acquisition cost of only $3,000 to $4,000 per new unit. In contrast, the acquisition price in the Marcus Garvey Urban Renewal Area in Brooklyn has been $5,300 per new unit.

Relocation and Demolition

Because relocation and demolition costs are related to the intensity of existing use, they have been traditionally high in redevelopment areas. The average cost of relocating a family from the Marcus Garvey site will be $2,200 per new unit produced. The human cost of relocation, in terms of uprooted families and neighborhood disruption, can never be quantified. On the other hand, most large-scale sites have much lower relocation loads. The commercial and residential relocation costs in Hallett's Cove would be about $200 per new unit. Other sites - vacant, inactive, or using air rights - do not necessitate moving on-site tenants. Where obstacles do exist, as with the bus garage in Sherman Creek, the problem usually centers around a major facility that is hard to relocate. In these areas it is difficult to envision immediate development.

Demolition costs also demonstrate the financial advantage of relatively vacant large-scale sites. It costs about $6,000 to demolish even a dilapidated tenement. Demolition costs will amount to more than $1,000 per new unit in Marcus Garvey; they would be about $500 per new unit at Hallett's Cove.

Site Preparation

Despite certain savings, large-scale development is not a financial windfall. Once a renewal area like Marcus Garvey is cleared, few expenses remain before construction can begin. But most large-scale sites face extensive site preparation difficulties. Some are marshy and have foundation problems; others require fill ($40 per square foot at Battery Park City) or decking beyond the existing shoreline (more than $40 per square foot at Manhattan Landing); still others require decking over active railroad yards (projected at more than $25 per square foot in Sunnyside Yards.)

The economics of development thus favor large-scale projects only in particular cases - sites with low preparation costs (nearly vacant and without abnormal foundation problems); and sites, typically near mid-town or lower Manhattan, where preparation costs are high (creating new land by decking or fill) but still inexpensive compared to the price of adjacent land.

Construction Costs

Brick-and-mortar costs are similar for all kinds of development, but they will vary with different sites and construction techniques. In some cases, economies of scale give large-scale development a minor edge. Modular housing systems also have the potential of reducing building costs, but the technology is not sufficiently advanced. Some large-scale developers have considered using systems construction, e.g., at St. George Place and Starrett City, but none has done so to date.

Marketability and Rent Levels

A developer's ability to minimize development costs, both before and during construction, will affect the major component of his projected rental or carrying charges - the debt service on the mortgage. (Debt service is the mortgage payment, composed of interest and amortization of the loan.) The three other components of rentals are operating expenses (maintenance, repairs, etc.), taxes and profit. These costs must be considered in terms of their impact on marketability. When the four components are combined, will the rents attract tenants, given their present housing options? The question stands whether the housing unit is a cooperative, a condominium or a single-family home.

Marketability, of course, depends on who comprises the market. In New York City, as in most places, it has become practically impossible to produce new housing at rents payable by low- and moderate-income families without governmental assistance. Even middle-income housing can be built only in certain areas, using inexpensive building types. Government can increase the availability of low-, moderate- and middle-income housing by directly influencing rental components or land cost.

Government Subsidies

Because subsidies that can increase marketability and mixed-income tenancy are limited, we need a policy of resource allocation. Funds for programs other than tax abatement are in short supply. The great question is to what extent they should be used for large-scale developments. Subsidy requests for large-scale projects necessarily compete with their use in the City's established renewal projects and other deteriorated areas. This is a difficult social and economic priority question. The scarcity of funds makes it imperative that they be directed to those projects which yield the greatest public benefit and further the City's housing and social goals. These issues will be raised with particular force if Congress establishes a special revenue sharing program.

Given prior commitments and the present uncertainty of housing funds, even the best large-scale sites will have difficulty qualifying for future Federal subsidies (successor programs to Public Housing, Section 236, etc.). Desirable sites may, however, receive support from City programs, such as Mitchell-Lama financing and tax abatement. The City can also encourage private development of sites that can be built and marketed without financial assistance.

Reducing Cost - Land

By using urban renewal, the government can reduce the preconstruction costs of assemblage, acquisition, relocation, demolition and site preparation. Under Title I of the Housing Act of 1949 as amended, the original Urban Renewal program, public agencies can condemn and resell sites for purposes of development. The difference between the cost to the City and the sales price to developers is made up, or "written down", by the Federal government.

The land write-down formula calls for the Federal government to pay two-thirds of all preconstruction costs while the City and State share the remaining one-third. The moratorium on Federal housing funds has effectively ended the Urban Renewal program, but money for development should continue to be available, perhaps through revenue sharing. The City has a similar renewal mechanism which uses Capital Budget funds for the land write-down.

Mortgage Subsidies

Mortgage subsidies reduce debt service, which accounts for half the rental for new private housing, by providing low-interest loans or assuming part of the mortgage obligation. Mitchell-Lama and similar programs grant mortgages about two percent below market interest rate. These funds are limited by the bonding capacity of the lender - the City or State in the case of Mitchell-Lama. F.H.A. Section 236 and Public Housing programs directly subsidize loan payments, producing low- and moderate-income housing by effectively reducing the interest rate on the mortgage. These funds have been halted by the moratorium on Federal housing monies, though this action may be modified.

Tax Abatement

Government can also lower developers' costs - and therefore rents - by reducing real estate taxes. Because of their immense capital value, typical large-scale projects would yield hundreds of thousands of dollars annually, in some cases millions, if taxed at the full rate. But full taxation would raise rents beyond the reach of moderate- and middle-income families, if not to unmarketable levels. It has been used consistently for City and State-sponsored developments, including the Mitchell-Lama program.

With the passage of the Partial Tax Abatement Law in 1971 (Section 421 of the Real Property Law), a sliding scale of tax abatement was established for all new residential construction started between July 1, 1971 and January 1, 1973 on vacant or underutilized land. Under this Law, full abatement is granted from approval until two years after construction; 80 percent for the next two years; and so forth until after 10 years, the project becomes fully tax-paying. The City has obtained an extension of this program.

Permanent tax abatement, as under the Mitchell-Lama program, has the disadvantage of reducing the City's potential revenues, or tax base. Yet this is counter-balanced by the fact that current taxes on unused large-scale sites are negligible. If tax abatement helps produce a multi-million dollar marketable development which pays a portion of full taxation, the City still receives a net gain. The City should seriously consider using this tool, whether through new or existing programs, for desirable large-scale developments.

Profit and Operating Expenses

Profit, less susceptible to direct intervention, has comparatively insignificant effect on rents. Developers receiving reductions in taxes or favorable mortgage terms under the Private Housing Finance Law must limit their profit to 6% of their investment. Table II summarizes the effect of mortgage subsidies, low-interest loans and tax abatement on housing rentals.

Other elements, principally income tax regulations, figure prominently in determining profit. For instance, there is a strong incentive to favor decking rather than landfill for waterfront construction because decking is considered a building improvement, and therefore a depreciable item on Federal income taxes. Landfill does not have this tax status. Depreciation is, of course, an important factor in any private developer's cash-flow analysis. Tax laws can also affect marketability. Condo-

TABLE II

RENTAL COMPONENTS

	Conventional Financing[1]	City Mitchell-Lama Fully Taxed[2]	City Mitchell-Lama[3]	City Mitchell-Lama/ 236[4]
Development Cost per DU	$48,000	$48,000	$48,000	$48,000
Mortgage per DU	36,000	45,600	45,600	45,600
Debt Service	3,518	3,514	3,514	1,163
Taxes	2,016	2,016	508	247
Profit	1,200	144	144	144
Operating[5] Expenses	920	920	920	920
Rent per DU per Year	7,654	6,594	5,086	2,474
Rent per DU per Month	638	550	424	206
Rent per Room per Month[6]	145	125	96	47

[1] 25 years at 8 1/2%, 75% mortgage, fully taxed, full profit - 10% of equity (25%).

[2] 50 years at 7 1/2%, 95% mortgage, fully taxed, profit - 6% of equity (5%).

[3] 50 years at 7 1/2%, 95% mortgage, tax - 10% of shelter rent, profit - 6% of equity (5%).

[4] 50 years at 1%, 95% mortgage, tax - 10% of shelter rent, profit - 6% of equity (5%).

[5] At a rate of $200+ per room per year.

[6] 4.4 rooms per DU.

Note: 421 Partial Tax Abatement produces housing with rents similar to City Mitchell-Lama, fully taxed.

Source: New York Department of City Planning, 1973.

miniums and co-ops create an investment opportunity and income tax advantage which do not exist for rental units.

Operating expenses, the last component, are always supported by the rent. Even the most extensive subsidy programs, Public Housing and rent supplements, pay only a portion of operating expenses. Building type, however, can affect these expenses. For example, rowhouses and garden apartments usually have lower maintenance costs than elevator buildings.

Other Revenue Sources

Many of the proposed large-scale developments could gain additional revenues, and potentially lower residential rentals, by marketing commercial and/or industrial space. Plans for Battery Park City and Manhattan Landing both incorporate commercial space. While some retail space is expected for the convenience of tenants in all large-scale developments, a few sites could market enough non-residential space to financially "carry" the housing. On the other hand, the rental of commercial/retail space is far from automatic: several unsuccessful proposals were originally based on extensive commercial development which was later judged to be unmarketable.

Investment Needs

Even when subsidies are available, it is still a formidable task to finance large-scale developments. Only the largest banks and investors can amass the necessary funds. Such lenders are often reluctant to assume the risks single-handedly, preferring to spread their money more widely in smaller housing investments. Due to the need for massive capital, financing of large-scale projects in the past has generally been done by insurance companies, such as Metropolitan Life, or non-profit institutions, such as the United Housing Foundation.

The Federal government has enacted legislation, Title VII of the Housing Act of 1970, which might make it easier to finance large-scale developments. Congress passed this Urban Growth and New Communities Development Act in order "to encourage the rational, orderly, efficient and economic growth, development, and redevelopment" of the nation through the creation of communities with "adequate tax bases, community services, job opportunities and well-balanced neighborhoods."

This program offers various financial incentives to public and private developers to build new communities. The most important incentive is Federal guarantee of bonds to finance up to 100% of the project's cost. This enables developers to borrow investment capital with interest about 2% below market rate, a similar discount to the Mitchell-Lama program.

New Communities for the Inner City

Although it is commonly believed that the Title VII legislation was designed to emphasize new satellite towns such as Columbia, Maryland and Jonathan, Minnesota, Congress clearly also wanted to encourage new communities and large-scale developments within existing cities. This intent is articulated in Part D (Section 740) of the Act, entitled Development of Inner City areas:

> It is the purpose of this part to provide our cities, which urgently need to augment their inventories of housing (particularly housing for low- and moderate-income families) and to find sites for essential public facilities and additional sources of employment, but have virtually no vacant land upon which to build, with a program which will make possible the more rational use of urban land and space that is currently occupied by industrial or commercial uses which, though not physically blighted are functionally obsolete or uneconomic, or of land and space that is not usable in its present state because of natural hazards or inadequate development, so that in appropriate cases major rebuilding projects (including new communities in town) may be undertaken without major residential clearance activities and with minimal displacement.

Title VII could greatly aid large-scale developments within New York, but this possibility has not materialized. The present funding authorizations under the act are quite limited. The total bonding guarantees for the entire country are restricted to just $500 million, and $50 million per project. The authorizations for some provisions were never allocated; grants for "demonstration projects" and "planning assistance" have not been made. Developers of Title VII new communities complain of broken promises - they have not received first priority in other Federal assistance, such as FHA 236 loans, for instance. Supplemental grant-in-aid programs have been suspended.

Despite these limitations, the Federal incentives have stimulated interest in new communities. HUD's Office of New Communities Development has received 200 applications. As of July 1972, 12 new community developments had received approval for Title VII assistance - with projects ranging form 10,000 to 50,000 units and with bonding guarantees of from $5 million to $50 million. In December 1972, HUD granted New York City's Welfare Island supplemental grants-in-aid.

Welfare Island and Cedar-Riverside in Minneapolis are the only approved Title VII projects on inner city sites, but HUD officials are eager to receive more urban applications. They have suggested administratively that inner city sites be a minimum of 100 acres - a criterion met by more than ten of New York's large-scale sites. If national priorities come to focus on new community development and Title VII funding is increased, the City could take advantage of the opportunity by being ready with thorough proposals for the development of certain large-scale sites. This could win precious new housing monies for New York. On the other hand, if special revenue sharing becomes the national pattern and the New Communities program is included, the City will have to draw up its own priorities on resource allocation.

Public Development Corporations

Even an expanded Title VII program, however, will not satisfy all the City's demands for investment funding. For certain large-scale sites, public corporations can play an important role by providing large amounts of capital and a strong developer. The State Legislature has granted a limited tax-exempt bonding capacity to both the New York State Urban Development Corporation ($1 billion) and the New York City Housing Development Corporation ($500 million), for use on a wide range of housing projects.

The State Legislature can also establish special authorities, such as that for Battery Park City, which are restricted to the development of specific projects. Just as under Title VII, State support of the bonds enables public corporations to obtain advantageous mortgage rates. Moreover, their bonding power is separate from the State-imposed debt limit on the City's normal bonding power. As a result, it represents an expansion of City housing funds.

Naturally, there is strong competition among projects for use of available monies. The UDC has begun construction of three new communities in the State - Welfare (Roosevelt) Island, Audobon and Lysander. The City's HDC is financing the housing in Manhattan Landing. Other new or existing public corporations might be appropriate developers for specific large-scale projects.

CHAPTER 6

THE CITY'S VIEW - FUNDAMENTALS OF COMMUNITY DEVELOPMENT

- How can planning insure better development?
- How do schools and community facilities affect housing construction?
- What planning is needed for utilities and transportation?
- How should public policy deal with infrastructure requirements?

Planning and Infrastructure

Just as the builder must allow for more than the cost of brick-and-mortar construction, so developers, public officials and taxpayers are learning that the traditional "development cost" is not the total cost of a project. This is particularly true for large-scale development. New housing must have the necessary infrastructure: streets, transportation, sewers, water and power supply. In addition, there must be the community facilities which create a livable environment: schools, stores, parks and open space, health services, and police and fire stations.

Too often in the past, piecemeal housing development has occurred without these facilities, leading eventually to a breaking point for overloaded services. Once that point is reached, the costs of necessary additional infrastructure become nearly prohibitive, to the distress of residents, builders and the City.

It makes greater sense to build in areas with excess capacity of water, sewers, streets, public transit and community facilities. New development can then be absorbed with little additional investment. Sites in isolated and over-utilized areas requiring major capital investment should be considered only if they have significant and unique attributes. Each site must be evaluated in its own terms but the principle of using available infrastructure is crucial to a sensible policy for large-scale development.

Although most large-scale projects will add markedly to the localized demand for services and utilities, this is not a critical factor in itself. The issue is the efficiency with which they can be provided. The advantage of large-scale development is that the needs of particular projects can be predicted. If they are beyond the capacity of a developer, the City must either discourage the project or be prepared to fund the necessary capital construction itself.

Schools for New Development

Schools exemplify the community facilities/infrastructure problem. The educational park in Co-op City (including two elementary schools, two intermediate schools, and one high school) cost $51 million - more than $3,000 per unit and well over half the total infrastructure cost of $94.3 million. A 1970 development proposal for Floyd Bennett Field would have required ten elementary, five intermediate and two high schools, at a cost of $180 million or $4,000 per unit.

These costs underline the need to relate development to available school space. The City has a crazy-quilt of over- and under-utilized schools and school districts. Several large-scale development sites could take advantage of excess capacity. Although they would generate many students, little new school space would be needed. Additional school space for Hallett's Cove, for example, would cost only $1,000 to $2,000 per unit for several thousand families. Some sites, especially the smaller ones, would require no new space at all.

Where needed, new schools can be funded in several ways. The Educational Construction Fund develops housing in conjunction with schools. As mentioned before, the Planned Unit Development provision offers bonuses to developers who provide school space. Another alternative is "leased space" - the builder leases suitable space in his project to the Board of Education for a fixed rate over a number of years. This sidesteps the slow and costly budgeting and acquisition process, makes space available when it is needed, allows for the adjustment of school size as need changes, and brings the school directly to the students. The disadvantage is the lack of core facilities - gyms, cafeterias, labs, auditoriums - although these are more important at the intermediate than at the elementary level. As for the developer, he has the advantage of a long-term tenant for his non-residential space. When an entire new school is not necessary for a large-scale project, leased space is a viable alternative.

Community Facilities

The analysis of existing utilization, proximity, and cost can be applied to other community needs: police and fire stations, health services, libraries and parks. Only the largest developments require wholly new facilities. Co-op City needed its own police and fire stations as well as a public library, at a cost of $2 million or $1,300 per unit. Police and fire facilities would have cost $6 million or the same $1,300 per unit for the Floyd Bennett Field proposal. An ambulatory health care facility would cost $11.5 million at Sunnyside Yards, or about $700 per unit. Co-op City could avoid this cost by taking advantage of expanding services at Einstein and Montefiore Hospitals.

Several sites will be near parks. Battery Park, under-used except during weekday lunch hours, will be an excellent resource for the residents of Battery Park City. The proposed Sherman Creek project will be close to Washington Heights' beautiful parks. Development of Hallett's Cove could make little-used Rainey Park accessible to the entire neighborhood at virtually no cost. By contrast, capital expenditures for recreation and open space at Co-op City cost $11.2 million, or almost $800 per unit.

Utilities - Water Supply

Where water and sewers are presently inadequate or where the proposed site is large or isolated, extending utilities becomes a sizable capital project. Development of some large-scale sites could necessitate costly changes in regional utility systems. Where utilities already serve the site area, service expansion is usually not costly.

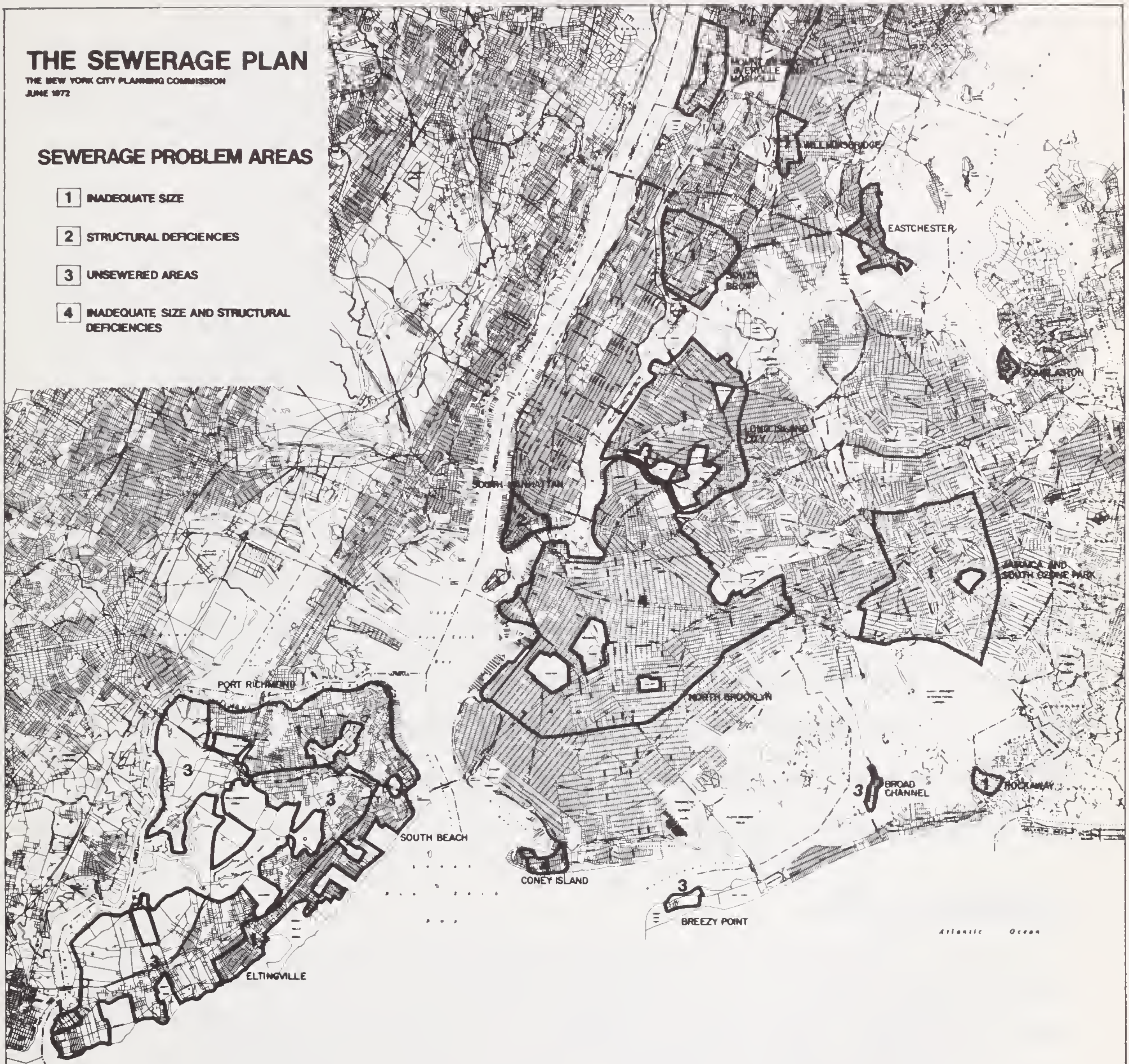
Supplying water to large-scale developments raises typical infrastructure problems.. Although the City has enough fresh water to serve the present population, its distribution capacity needs expansion. The first stage of a major new water tunnel is now being dug at a cost of $323 million. The whole project will require 20 years and four more stages of construction.

Adequate overall distribution capacity, however, does not mean that water mains leading from the tunnel to the site area will necessarily be sufficient. Several outlying areas of Brooklyn and Queens suffer from inadequate mains. In the case of the Floyd Bennett Field proposal, the problem was severe. The airfield is currently served by a 12-inch water main which runs seven miles from the Yonkers reservoir to the north Brooklyn acqueduct terminal.Extending the mains to service the new population would have required construction down Flatbush Avenue for eight years. The Department of Water Resources estimated that the installation of this seven-mile, 72-inch pipe would have cost $60 million or $1,200 per unit. It was also questionable whether the pipe installation was technically feasible.

Sewers

The provision of sewers is a comparable situation. Where excess pipe capacity exists, only link-up costs are involved. But inadequate capacity can mandate a new pumping station or interceptor sewer, such as the one recently built in lower Manhattan to handle the additional loads to be created by Battery Park City and Manhattan Landing. The Sunnyside Yard proposal would require a pumping station and new sewer line along 38th Avenue for a distance of three-and-a-hald miles at a cost of $1,000 per unit.

Sewers are also subject to structural deficiencies. Certain large-scale projects necessitate reconstruction of regional systems. Developments can also overload treatment plants. The Floyd Bennett Field proposal would have required a new plant at a cost of $1,000 per unit. The City and developer must evaluate these capital expenses in evaluating sites and proposals. Treatment plants in particular are quite expensive. Inadequate facilities can cause sewage overflows and other environmental hazards.



THE SEWERAGE PLAN

THE NEW YORK CITY PLANNING COMMISSION
JUNE 1972

SEWERAGE PROBLEM AREAS

- 1 INADEQUATE SIZE
- 2 STRUCTURAL DEFICIENCIES
- 3 UNSEWERED AREAS
- 4 INADEQUATE SIZE AND STRUCTURAL DEFICIENCIES

The City has various sewerage problem areas (see map). These evaluations are based on current development patterns. Increased localized growth through large-scale development could further strain the system as well as create more problem areas. Large-scale projects must be assessed in terms of their impact on regional systems and long-range infrastructure planning.

Electric Power

Rather than being the responsibility of the City or developer, electric power must be provided by a private utility. But since these costs are financed through the rate structure for power consumers, the expense is borne indirectly by all New Yorkers. Still, there are advantages to expanding power capacity on a large scale rather than incrementally. Economies of size are sometimes available to large purchasers of power. Although large projects have high infrastructure costs compared to incremental development, the latter has hidden costs. The power system in many residential areas of the City has become incapable of handling the increased laods that result from infill construction. In contrast, many large-scale sites are in under-loaded areas.

Transportation Needs

Transportation access can be a fundamental problem in the development of large-scale sites. Many sites are relatively isolated, separated from surrounding neighborhoods by highways, railroad tracks or waterways. In some cases, the new population would add considerable volume to the existing transportation system, both automotive and public. Areas with overburdened transportation facilities should not have a high development priority unless services can be readily expanded.

Planners are increasingly recognizing the relationship between land use planning and transportation. One advantage of large-scale development is that it generates sufficient passenger volumes to justify public transportation improvements. Express buses, for example, can be provided, reducing dependence on private cars for reaching the central business district. Mechanisms should be established for improving public transit where necessary in conjunction with large-scale projects.

Transportation causes problems when it is not regarded as being as essential as, say, water or sewers. Due to such lack of foresight, Co-op City never got its "needed" subway link. Yet transit systems are not easily altered. The Floyd Bennett Field proposal would have required an extension of the IRT subway down Flatbush Avenue, expansion of capacity in the transit system through Brooklyn to Manhattan, including construction of a new tunnel under the East River, and the widening of Shore Parkway. These alterations could have cost nearly 1 billion dollars, yet developing Floyd Bennett Field without insuring adequate transit would have been a serious abrogation of City responsibility.

In contrast, the transportation potential of some sites creates good development opportunities. Harlem River Yards may have a station on the on the new Second Avenue subway line, which would give the site excellent access to job markets. Another valuable opportunity may be found where existing facilities are inefficiently used. Manhattan Landing will enable its residents to walk to work in lower Manhattan. Those who work in midtown or in Brooklyn will be able to use subways that are largely under-utilized at off-peak hours. Even during rush-hour, residents of this area will be boarding trains just vacated by downtown workers. The City stretches the usefulness of its transit system by encouraging developments of this sort.

The Private Car

Many sites, particularly those in outlying areas without mass transit, will have to depend on the private automobile, necessitating adequate parking facilities. Garage structures and underground parking are costly, but open parking frequently causes siting, access and aesthetic problems. The situation demands a trade-off between the extra cost of providing enclosed parking at - $5,000-$6,000 per space - and the land consumption and visual blight of paved outdoor spaces.

The parking requirements of the Zoning Resolution may not meet the needs of each site. The City should consider other methods of determining parking levels. In Co-op City, the City negotiated with the United Housing Foundation to provide garages for over 10,000 cars. The new PUD text offers bonuses for enclosed parking. It is also important to build adequate access roads. This is particularly true in cases where site access is restricted by some barrier.

Public Costs - The Planning Rationale

Sites with excessive infrastructure and facility requirements are at a competitive disadvantage. The City can neither contribute more than $30,000 per unit to Floyd Bennett Field nor tolerate development there without the necessary facilities. On the other hand, the facilities for many sites would cost less than $5,000 per unit. Hallett's Cove, for example, needs only one or two schools. The City should give higher priority to this type of site. It is common sense to build housing in areas that have the ability to support added population.

A Method of Implementation

Development must be regulated so as to economize on the costs of municipal facilities and infrastructure while maintaining their quality. Special zoning tools may prove useful for large-scale sites.

A model is provided in the development easement system employed by the suburban town of Ramapo, New York. Streets, sewers, schools and so on are each assigned a point value. Vacant land must have a certain number of infrastructure "points" to be eligible for development. The town's 18-year capital improvement plan outlines when and where new facilities will be built. A developer may wait for the town or build the necessary infrastructure himself. Land which is judged unbuildable under this system receives tax abatement.

New York City could employ this type of control on large-scale sites. The system has been deemed a constitutional use of zoning powers. Each site would be analyzed for needs, and various facilities would be weighted in an overall point scheme. Rather than legislating a cut-off point, the City might instead use the point system to help determine density, with density increases at least partially dependent on new facilities. Other variations are possible, but the basic concept has value for regulating large-scale development.

CHAPTER 7

ENVIRONMENT - PROBLEMS AND POSSIBILITIES

- How does development affect the urban environment?

- What are the problems of waste disposal?

- Can adequate power be supplied to large-scale developments?

- What is the potential for environmental improvement?

Development and the Environment

During the last decade, the nation has become more aware of the ambiguous environmental consequences of development. Any adverse effects of large-scale development must be minimized. At the same time, large-scale development offers the opportunity to ameliorate existing environmental problems because it can often absorb the cost of advanced treatment systems.

Sewage Treatment

The previous chapter discussed the problems of transporting waste to treatment plants. Yet adequate sewer capacity and sewage treatment do not always go hand in hand. "Combined sewers", which are standard in most of the City, received both storm water (rain and other ground run-off) and sanitary sewage (human waste, etc.). During rainstorms, these pipe systems deliver more waste to the treatment plants than can be handled, resulting in overflows of raw sewage which cause serious pollution.

This problem can be lessened by expanding the capacity of treatment plants so that peak loads cause fewer overflows. The City has adopted a program of renovating existing plants as well as building new ones. The current investment of $2-billion is intended to meet demands to the year 2000, based on current standards. The improvements include upgrading the capacity and treatment levels of six plants at a cost of $250-million. This program is based on current growth projections, however. Certain large-scale projects could overload even upgraded plants. If funds and space are available, most plants could be further imporved, but that raises the economic and infrastructure issues discussed in the last chapter.

An alternative solution is to build separate sewer systems for storm water and for sanitary sewage. These "separate systems" allow a more efficient use of treatment plants than combined ones. Large-scale projects requiring additional sewer capacity could build separate systems where feasible, such as Staten Island and along the waterfront.

Solid Waste

Solid waste disposal demonstrates the possibilities for environmental improvement in large-scale projects. New developments could incorporate cleaner, more efficient means of collecting and disposing of solid wastes. Roosevelt Island, for example, is building a pneumatic system that transports all waste to a central collection point.

Centralized collection greatly diminishes the truck traffic involved in conventional waste disposal and allows significant reduction in bulk. In a development with 10,000 residents, a centralized compactor would produce one truckload of garbage every two days compared to the more than three trucks a day required when ordinary garbage cans are used.

Solid Waste as Generating Fuel

One innovative proposal uses solid waste as fuel for electric generating plants. Collection centers, built adjacent to underutilized railroad lines, would shred and compress wastes and move them by train to small

300-400 megawatt plants. These power plants would be separate from the regional system.

The City has applied to the Federal government for a grant to study a form of this energy system called Integrated Modular Utility Systems (IMUS). Several large-scale sites provide an excellent opportunity for an IMUS demonstration grant. Coordinated development of sites located on one rail line could include rail-linked collection centers and one power plant for several projects.

Electric Power

The problems surrounding power are more troublesome, increasing the City's pressing need for adequate supplies of non-polluting power. There are basically three methods of supplying power to the City: Con Ed generating plants, electricity purchased from outside sources, and total energy plants. Several large-scale projects have built their own total energy plants, which are independent of the regional system. Rochdale Village in Queens has a plant that provides heat, hot water, electricity and central air-conditioning. It burns natural gas and oil as fuel. The IMUS program is intended to develop total energy plants that burn solid waste rather than fossil fuels.

Each power source raises questions of pollution - how much and where? Con Ed fossil fuel plants are localized and comparatively heavy polluters. Filtering is proportionally less expensive than in total energy plants, but is still neither cheap nor easy. Electricity purchased outside the City causes no pollution for New York, but the supply is unreliable.

Total energy plants are quite efficient but present problems of operation and emission control. On the other hand, the total amount of pollution in the vicinity is much less than with larger plants, and pollutants often fall on a comparatively clean area. The great advantage of total energy plants, however, is that they do not burden Con Ed's system. Since transmission is within a limited area, they lose little energy in delivering power; less energy loss means less fuel waste and therefore less pollution.

No one knows when non-polluting generating plants will become easily available. Meanwhile, reducing the power necessary to service buildings will correspondingly diminish pollution. The design of more efficient heating and cooling systems- including better insulation and the re-use of wasted heat - is fundamental to this conservation.

Noise Pollution

Many large-scale sites have excessive noise because they are located near active railways, transit yards or highways. Others are under the flight path of an airport. It has only been recognized recently that high noise levels can be damaging as well as annoying. The Federal government has established stringent guidelines that recognize this fact. The National Environmental Protection Act of 1969 precludes subsidies to housing projects in environmentally sub-standard areas.

However, housing can be specially designed to reduce negative effects. Buildings can be oriented away from localized noise sources. When noise is more general, as from airplanes, several techniques can reduce sound reaching apartment interiors. These include acoustical treatments such as site enclosure walls, insulating pads on building columns, and double glazing of windows. Although these methods often prove expensive, they have been successfully used in Starrett City, which is under JFK's flight paths, and in numerous apartments and schools built over highways and rail yards. Clearly, however, an unacceptable noise level must mitigate against many sites for large-scale projects.

Air Pollution

Sites near expressways and heavy traffic arteries may suffer from air pollution. It is more difficult to keep out noxious air than noise. Several large-scale sites are in poor air quality zones, such as the South Bronx and along the East River. We must question whether the City ought to encourage major residential development in areas with seriously degraded air. Yet, since some of these areas are fine neighborhoods, poor air quality alone may not be sufficient cause for absolute prohibition on new housing.

Environmental Benefits through Development

Development need not be synonymous with environmental desecration. Large-scale developments can often produce environmental improvements. Few of the proposed sites represent valuable natural resources in their present state, and many are scars on the landscape - deteriorating waterfront or transit yards. Development of such areas diminishes this blighting effect on the surrounding neighborhoods. Building over an expressway contains the noise and poor air. Building over transit yards reclaims large areas for human use, removes visual blight and reduces noise. Consider what the heart of Manhattan would be like if Grand Central Station, the Roosevelt Hotel, and numerous office buildings had not covered its extensive railroad tracks.

Some sites afford splendid environmental opportunities. The joint UDC - State Parks Commission project on the Harlem River has created recreational and natural open space by placing new housing in the midst of a 16-acre state park. Development of other large-scale sites on the Harlem River can further reverse the process of deterioration which turned this once-lovely river valley into a wasteland.

CHAPTER 8

SOCIAL SETTINGS AND POLICY

- What role do commercial centers play in social settings?

- What kind of local area impacts do large-scale developments have?

- How do large-scale projects affect the City as a whole?

- What policy alternatives do we have?

The Quality of Life

Large-scale developments imply much more than housing. Location, design, facilities, transit access and natural resources each affect the quality of people's lives and have social implications. But rather than generalizing about social settings, we will discuss one aspect of housing developments which has considerable impact on their social character - commercial centers, in which economic potential and social function interact strongly.

The Marketplace as a Social Center

The vitality of urban living stems in large part from the face-to-face exchange of services, goods, ideas, and greetings. Historically, farmers and craftsmen came from their rural homes to marketplaces to trade gossip and wares in a rich and exciting atmosphere. People today are isolated not by geography but by specialization and technology. Shopping centers aer a pale equivalent of the bazaar or fair of medieval times, for they usually lack the vitality and activity of a true community center. Marketplace should offer entertainment, religious services, public meeting rooms, day care centers and parks as well as stores.

Such socially useful marketplaces become practical in large-scale developments. Every project has particular requirements and opportunities for commercial facilities. The specific type of commercial center will vary with the location, size, tenancy, and design of the new community, as well as with the nature of the surrounding area. Yet every project should include some marketplace functions.

Commercial Centers

The isolated, self-contained site particularly needs a commercial node to act as the community's center. The design of Roosevelt Island's arcade recognizes this fact. A central shopping area provides focus to a neighborhood that would otherwise be a mere collection of apartments, reinforcing the feeling of community by providing a forum for daily routines.

The economics of supporting such a forum on an isolated site must be taken into account: at least 2,500 - 3,000 households are necessary for an adequate retail environment; 4,000 units can support full commercial services. These figures will vary with the income levels of tenants.

The significance of these numbers may be seen in lost opportunities. The Urban Development Corporation's Harlem River Park Houses will probably not fulfill its residents' commercial needs. Residents of this quite isolated site will need retail shops, but the 1,650 units cannot support a full-size supermarket. Tenants will not be able to walk to essential shops but will have to use cars or public transit. The economics of retail services have a direct impact on the quality of life in large-scale developments.

On an integrated site, a large-scale project can enhance an existing shopping area even if the project is not big enough to sustain its own. Meager commercial facilities exist today in both Hallett's Cove and New Lane because the current population is not large enough to support diverse goods and services. Residents must travel out of their neighborhoods for most shopping. Proper development of these sites would bring a wider spectrum of commercial uses into these established neighborhoods. Retail stores in Sunset Park are faltering because of a drop in the area's population. Development of Harbor Houses would increase the local market and revitalize neighborhood shops.

The focal large-scale site can trigger the rebirth of a regional subcenter. St. George Place is the beginning of a new downtown Staten Island, with reclaimed waterfront, improved traffic circulation, and added commercial services. Manhattan Landing and Battery Park City will help make lower Manhattan a 24-hour community. Focal developments can energize a whole community, bringing new activities, jobs, shops and meeting places.

Neighborhood Impact

Large-scale developments usually have a ripple effect, touching much more than the lives of their residents. Neighborhood impact varies with the type of site. Isolated and focal sites tend to have fewer residential neighbors, though there are always political and economic participants.

Yet, the typical large-scale projects must fit into existing communities. Planning for these projects involves much negotiation to reconcile local and development needs. Design, density, tenancy, open space, and school facilities are legitimate matters of community concern. Analysis and discussion may demonstrate that development is infeasible on a particular site, or the process may lead to a development that satisfies a broad range of interests. Be it the elimination of blight or addition of new resources, large-scale development allows more community control and insures greater benefits than scattered, isolated growth. A large project certainly has significant impact on its neighborhood, and not everyone finds that desirable, but the process of change can be guided to minimize undesirable effects.

Wider Effects

The City-wide social implications of building large-scale developments depend to a significant extent on who lives in them. Historically, large-scale projects have served the middle class, providing alternative living environments for people who might otherwise have left New York. Some projects have caused significant population shifts within the City.

Co-op City, for instance, is often said to have spurred an exodus of white residents from the Grand Concourse area. As white residents left, blacks and puerto ricans moved in, many from the South Bronx. This turnover in the housing stock often catalyzes neighborhood transition. The Concourse is less stable than it once was but has become a step up for many minority residents. Some people feel that this turnover hastens decline, others that it is part of the normal process of ethnic self-improvement. The scale of internal population migration indicates that the new housing developments are meeting a deeply felt need, but it is still unclear whether the new housing causes the transition or merely channels it.

Should large-scale developments house just the middle class or a broader range of people? The City has the responsibility of expanding housing opportunities for all citizens, and mixed-income communities have been a long-standing goal. All City Mitchell-Lama projects, for example, provide 20% low-income units whenever funding is available. But housing subsidies are scarce. We have suggested that large-scale developments should not compete with established commitments to redevelopment areas. The City alone does not have the fiscal capacity to meet its present housing goals, let alone subsidize large-scale projects. Without substantial Federal aid, it is unrealistic to expect that these developments can serve mixed-income populations.

Alternatives

There are several possible responses to this quandary. The City can wait for Federal subsidies to reappear in sufficient quantity to meet its needs, stalling all developments that cannot accommodate a given proportion of low- and moderate-income tenants. Or large-scale projects for middle- and upper-income people can be allowed on the grounds that they meet a significant social need. Construction of some developments could be phased with certain portions planned in anticipation of future subsidies. Other sites could be designated for specific income levels; economic feasibility would determine when development proceeded.

Realistically, in the near future, most large-scale projects will be built, if at all, without extensive subsidies. It should also be stated that not all communities want mixed-income projects even when subsidies are available. Still, the effect of building certain middle-income developments could be to encourage the kind of changes that occurred on the Grand Concourse, whether these are desirable or not.

The answer to this may lie in combining large-scale development with aid to transitional and urban renewal areas. Alternatively, projects that imply large population shifts could be avoided. Or the City might decide that its responsibility to maintain the metropolis as a home for all classes mandates a less restrictive approach. A balanced policy on large-scale development must be based on careful consideration of all these possibilities and their implications.

PART 2

Site Analysis

The following section of the book provides a preliminary analysis of development factors on over twenty typical large-scale sites. Its purpose is to provide a realistic context for the discussion of policy alternatives. These sites do not represent all the vacant and underutilized land in the City where large-scale development could conceivably occur, but they demonstrate the difficulties and potential of the process.

The fact that each site is analyzed for housing development suitability does not mean that the workbook is proposing housing on all the sites. As mentioned before, the City and the housing market could not cope with so many large projects. Many of the sites could be more appropriately used for parkland, industry or commercial facilities. But inasmuch as housing is one use that will clearly be considered, the site analysis provides a basis for evaluation. These tables should therefore be viewed more as analytic examples for policy formulation than as development proposals. The workshop will hopefully use them as a springboard for discussion of broad issues rather than site-specific debates.

Much of the information on the site analysis tables is self-evident, but some requires further explanation. The environmental analysis included water supply and sewerage systems, noise and air pollution levels, the effect of site conditions on a projected development, and the effect of the development on the area. These factors were evaluated for varying density levels. Water and sewer needs were compared with the adequacy of existing systems in the area.

Air quality investigation was both macroscopic and microscopic. The proximity of known pollution sources, such as power plants and highways, was noted in most cases. Noise pollution analysis was similar. NEF levels (Noise Exposure Forecast) were examined mostly for sites in an airport flight path. Local noise sources such as transportation corridors were also significant. The methodology established for the study can of course be applied in greater detail when specific proposals arise. Its purpose here is to indicate the type of questions that need to be asked.

We have noted on each site the level of commercial facilities that a development would most likely require. The methodology we established is again difficult to apply without knowing the precise nature of a development. This included such factors as income level of tenants, apartment size distribution and number of units. These variables are evaluated along with income requirements for various types of stores and market conditions in the project area.

Sample analyses led to the selection of three general categories of commercial needs for the sites: minor convenience, major convenience and primary. Minor convenience means less than 25,000 square feet of space, including a grocery store, drug store, perhaps a laundry and beauty shop. This is appropriate for 2,000 to 4,000 families. Major convenience includes similar stores but more of them, up to 100,000 square feet. This level is required by developments of more than 4,000 units.

Primary shopping includes a full supermarket, large drug store, restaurants and perhaps a furniture store or movie theater. Such a shopping center would have upwards of 100,000 square feet of space, and serve 4,000 resident families plus others from a wider area. In order to attract more customers, it must have good transportation access and be located in an area without other adequate primary shopping. The retail space estimates are only rough guidelines. The important point is that sites have varying potential for commercial development which is inherent in their size and location. The complex of factors must be evaluated to determine what retail factors are most appropriate in each case.

The section on each table called "Density and School Needs" provides a rough idea of what impact development will have on schools in the site vicinity. Vicinity was defined for analytic purposes as 3/4 mile for K-4 schools, and one mile for 5-8 schools. District utilization patterns were not considered relevant because school districts tend to be very large. For each school in the vicinity, we calculated the number of available seats based on 1971-72 enrollment. If the schools were overcrowded already, that was recorded as an additional need.

The students generated by new housing can be estimated on the basis of income level of tenants, borough of residence, and years of occupancy. Adding these students to the existing load in the vicinity produces an estimate of needed school seats. This calculation was performed for various possible density levels on each site. The resultant figure is called underload/overload. Underload, expressed by a minus sign (-), means seats are available even with the addition of new housing. Overload, expressed by a plus sign (+), means new school seats are needed to serve the new development and any current overcrowding in the area.

Because of the many variables in this estimating procedure, figures have been rounded off to the nearest hundred. For example, school bussing can change enrollment levels. In addition, area population decline or growth aside from the large-scale project can affect school capacity. Again, therefore, this analysis is intended to suggest the kind of impact that a large-scale development will have. It should be noted that the density levels were selected on the basis of existing zoning (if residential), area zoning and economic factors. They are used for analytic purposes only, and in no way imply recommendations by the Planning Commission.

THE BRONX

SITE: Harlem River Valley (Highbridge)

ACREAGE: Total - 56 Residential - 48

EXISTING ZONING: M1-1

HISTORY: 1968, 5344-unit Rose Assoc. proposal dropped-high decking costs over rail yards; these are no longer in use. Community supported '68 proposal.

SITE PREPARATION: Vacant land; site is isolated from adjacent built up community by active railroad, Major Deegan Expresway, and a steep hill.

FACILITIES/SPECIAL FACTORS: Near the Macombs Dam, John Mullaly and Highbridge Parks; great river valley views; could become part of linear development along shore.

ACCESS: 5/8 mile uphill to IND and IRT; possible Penn Central service to Grand Central; Major Deegan adjacent, but difficult access; upgrading of Sedgwick Avenue bridge probably necessary; pedestrian access problematic.

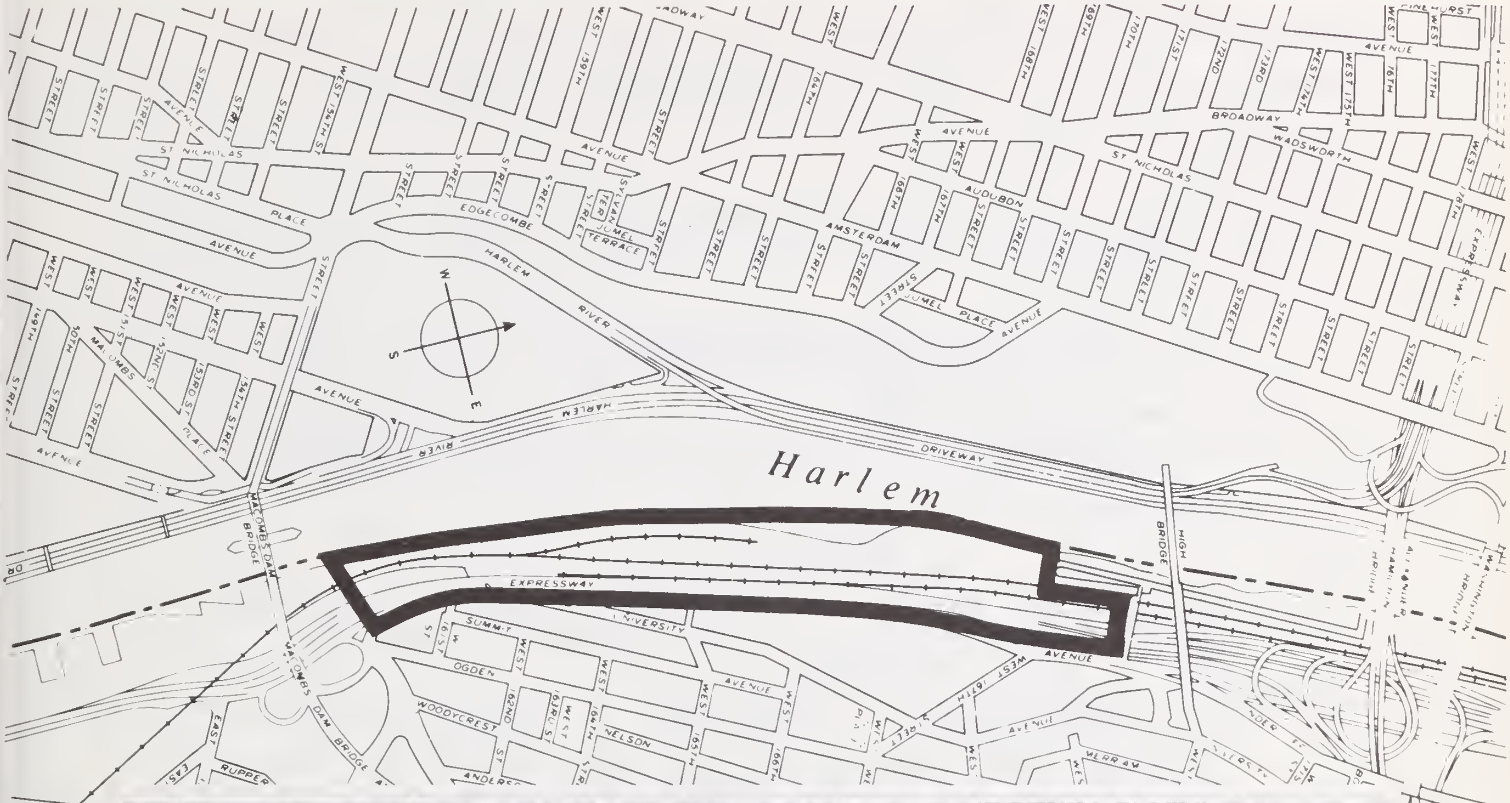
ENVIRONMENT: Major Deegan, bridges and Penn Central cause possible air and noise problem.

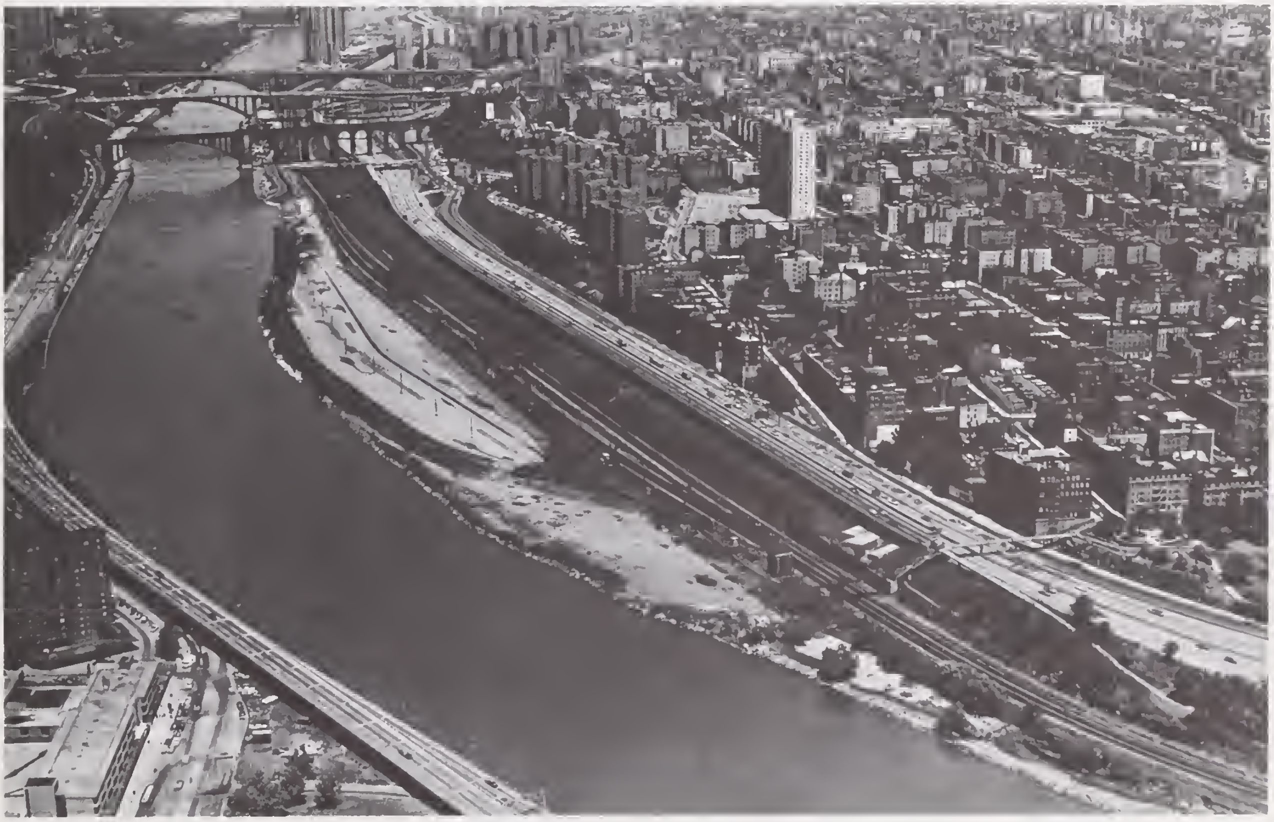
RETAIL/COMMERCIAL: Major convenience and some primary shopping needed on-site; weak adjacent market area.

DENSITY AND SCHOOL NEEDS:

Zoning Possibilities	Number of Units	Students Generated K-4/5-8	Overload-Underload K-4/5-8
		3,300	+4,200
R7	6,400	1,700	+1,800

Harlem River (Highbridge)





THE BRONX

SITE: Harlem River Yards I, II

ACREAGE: Total - I: 70, II: 94 Residential - I: 60, II: 80

EXISTING ZONING: M3-1

SITE PREPARATION: Site in single ownership (Penn Central); railroad wants to consolidate operations and sell most of yards.

FACILITIES/SPECIAL FACTORS: New community and infrastructure would have to be built: extensive facilities required. Site could be relocation area for South Bronx and Harlem Model Cities areas; residential center here would open Randall's Island to more intensive recreational use; normally incompatible uses could be tolerated, due to sectioning of site by Major Deegan Expressway and Triborough Bridge. Community Board favors development.

ACCESS: Second Avenue subway will probably be re-routed through this site - necessary for development; now 1/2 mile from IRT subway; Major Deegan Expressway and Triborough Bridge pass through site.

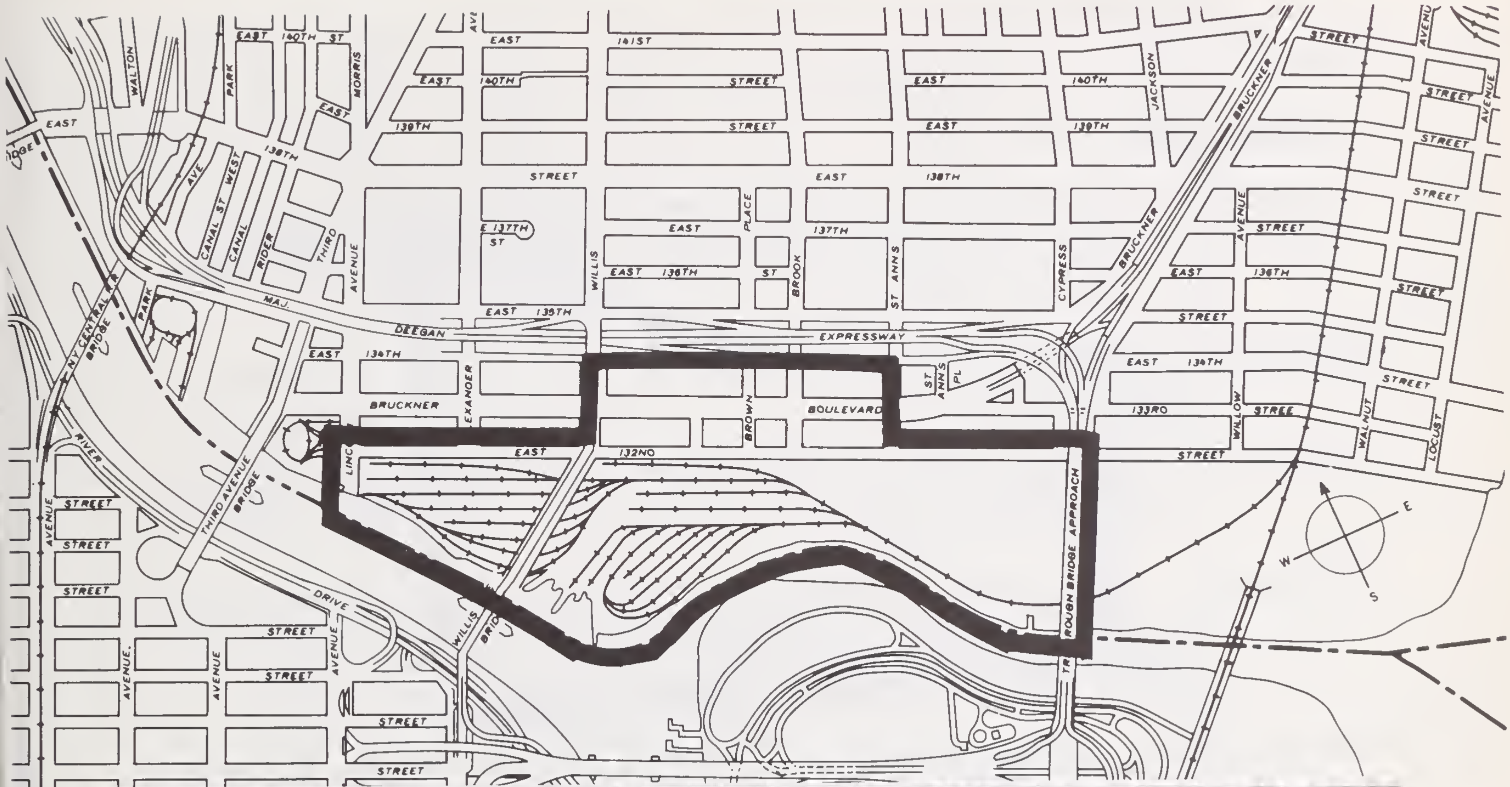
ENVIRONMENT: Site in LaGuardia flight path - 40 + N.E.F. zone, unacceptable by HUD noise standards; rail yards and highways cause possible noise problems; high air pollution, Hell Gate power plant nearby; sewer regulator overflow causes odor problem.

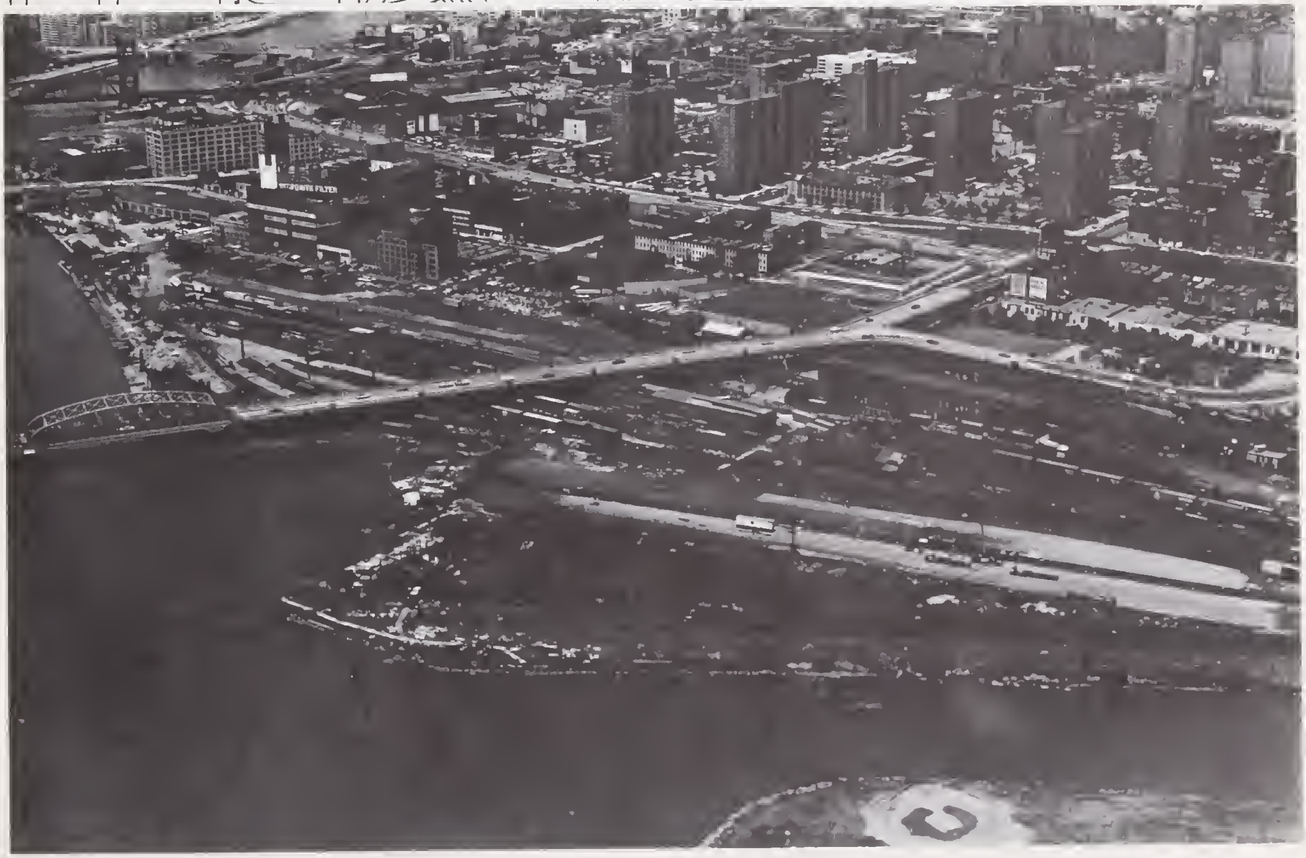
RETAIL/COMMERCIAL: Major convenience and some primary facilities needed on-site; department stores along 149th Street in Hub area.

DENSITY AND SCHOOL NEEDS:

	Zoning Possibilities	Number of Units	Students Generated K-4/5-8	Overload-Underload K-4/5-8
I.	R6	6,100	3,400 1,700	+4,200 +2,000
	R7	8,000	4,500 2,300	+5,300 +2,500
	R8	13,200	7,500 3,800	+8,200 +4,000
II.	R6	8,100	4,600 2,300	+5,400 +2,600
	R7	10,700	6,000 3,100	+6,800 +3,300
	R8	17,600	9,900 5,000	+10,700 +5,300

Harlem River Yards (Mott Haven)





BROOKLYN

SITE: Coney Island Creek

ACREAGE: Total - 52 Residential - 44

EXISTING ZONING: M1-2, M3-1

SITE PREPARATION: Must fill in Coney Island Creek, running through site; estimated cost of land acquisition, landfill, sewer extension: $25 million; Brooklyn Union Gas Co. has large tank on site, with no plans for relocation.

FACILITIES/SPECIAL FACTORS: Near Coney Island Beach, Dreier-Offerman Park (undeveloped).

ACCESS: 1/4 mile from F train; 1/2 mile from Brighton subway line; Shore Parkway adjacent; vehicular access routes overcrowded, especially to Parkway.

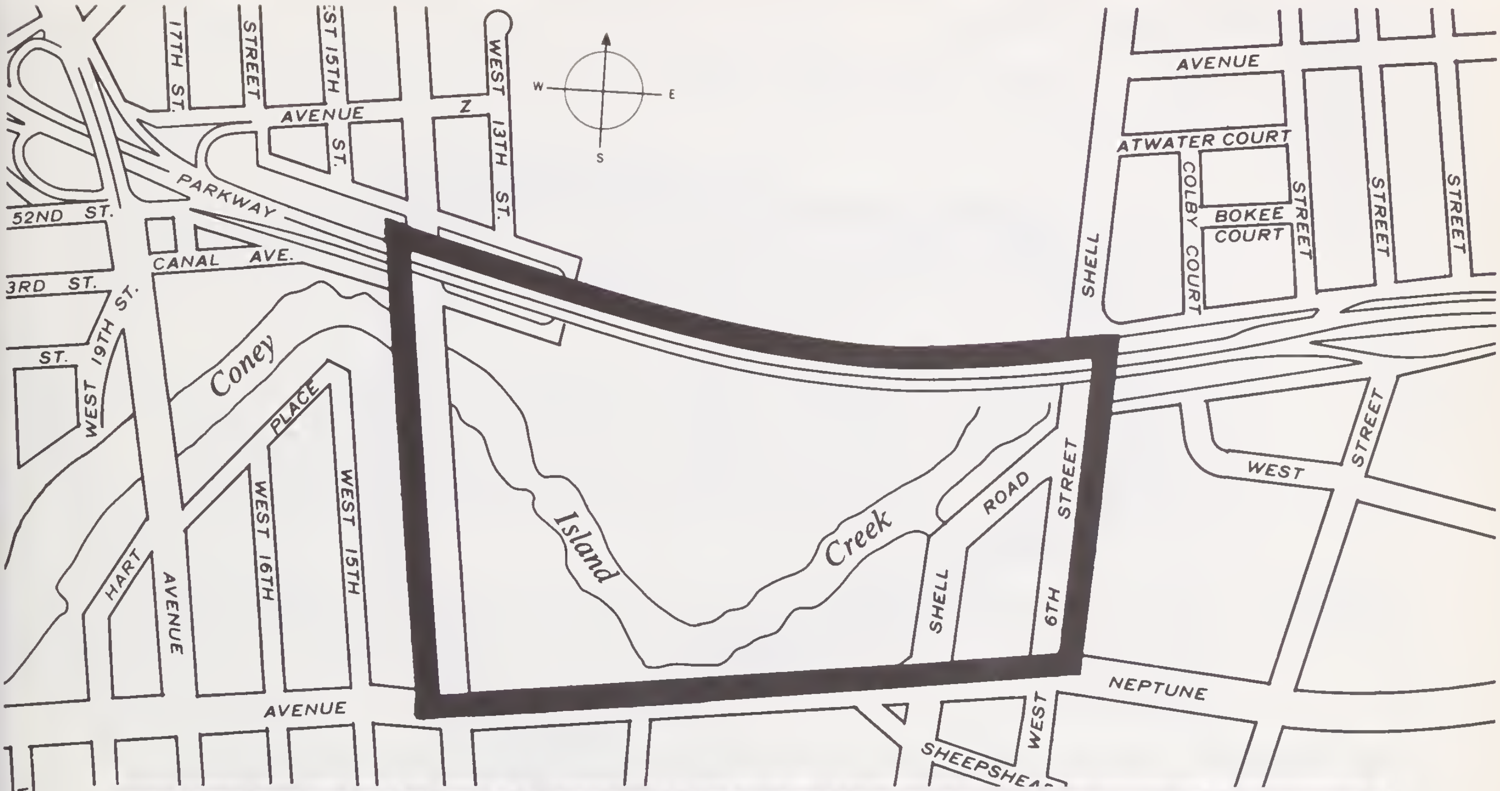
ENVIRONMENT: Sewer extension necessary; water supply needs reinforcement; air and noise problems caused by elevated lines and elevated Parkway cut through site; severe odor problems would result without filling in Creek and extending sewer.

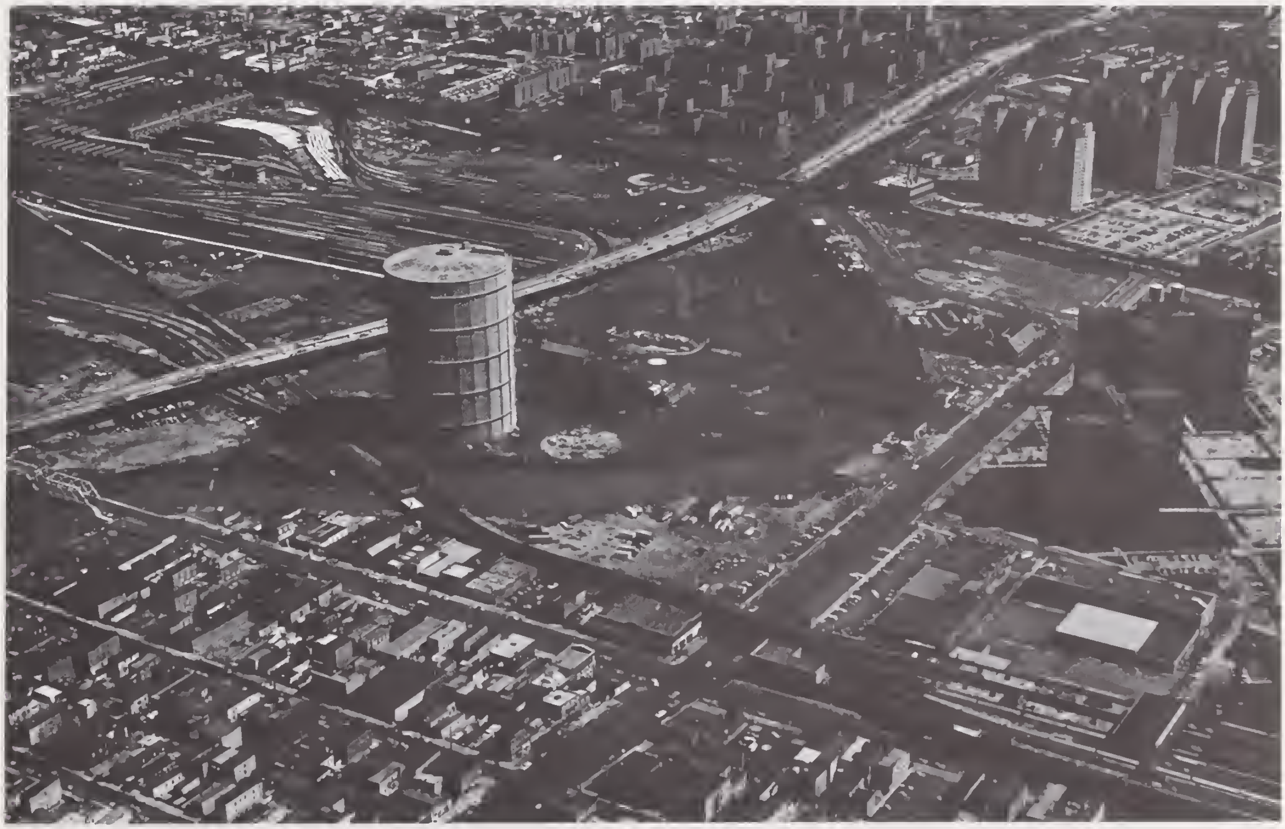
RETAIL/COMMERCIAL: Minor convenience and some primary shopping necessary; auto access to Kings Plaza shopping center.

DENSITY AND SCHOOL NEEDS:

Zoning Possibilities	Number of Units	Students Generated K-4/5-8	Overload-Underload K-4/5-8
		900	+100
R4	1,600	500	-1,000
		1,400	+600
R5	2,500	700	-800
		2,500	+1,700
R6	4,400	1,300	-200

Coney Island Creek





BROOKLYN

SITE: Floyd Bennett Field

ACREAGE: TOTAL - 1,282 Residential - 600

EXISTING ZONING: M1-1

HISTORY: Site now designated part of Gateway National Recreation Area. There is no longer any possibility of housing here. In 1970, State Division of Housing proposed 45,000 mixed-income units. This analysis is included for purposes of information only.

FACILITIES/SPECIAL FACTORS: 1970 pre-Gateway proposal: site lacks all infrastructure and community facilities (health facilities, police and fire stations, library, sewers, transit facilities, roads and highway access); cost of providing minimum facilities estimated at $1 billion. Development would require rebuilding of Brooklyn's water and transit systems.

ACCESS: 4 miles from subway, 2 miles from proposed Utica Avenue subway extension; Shore Parkway adjacent to northern part of site; also served by overcrowded Flatbush Ave.; road network is inadequate.

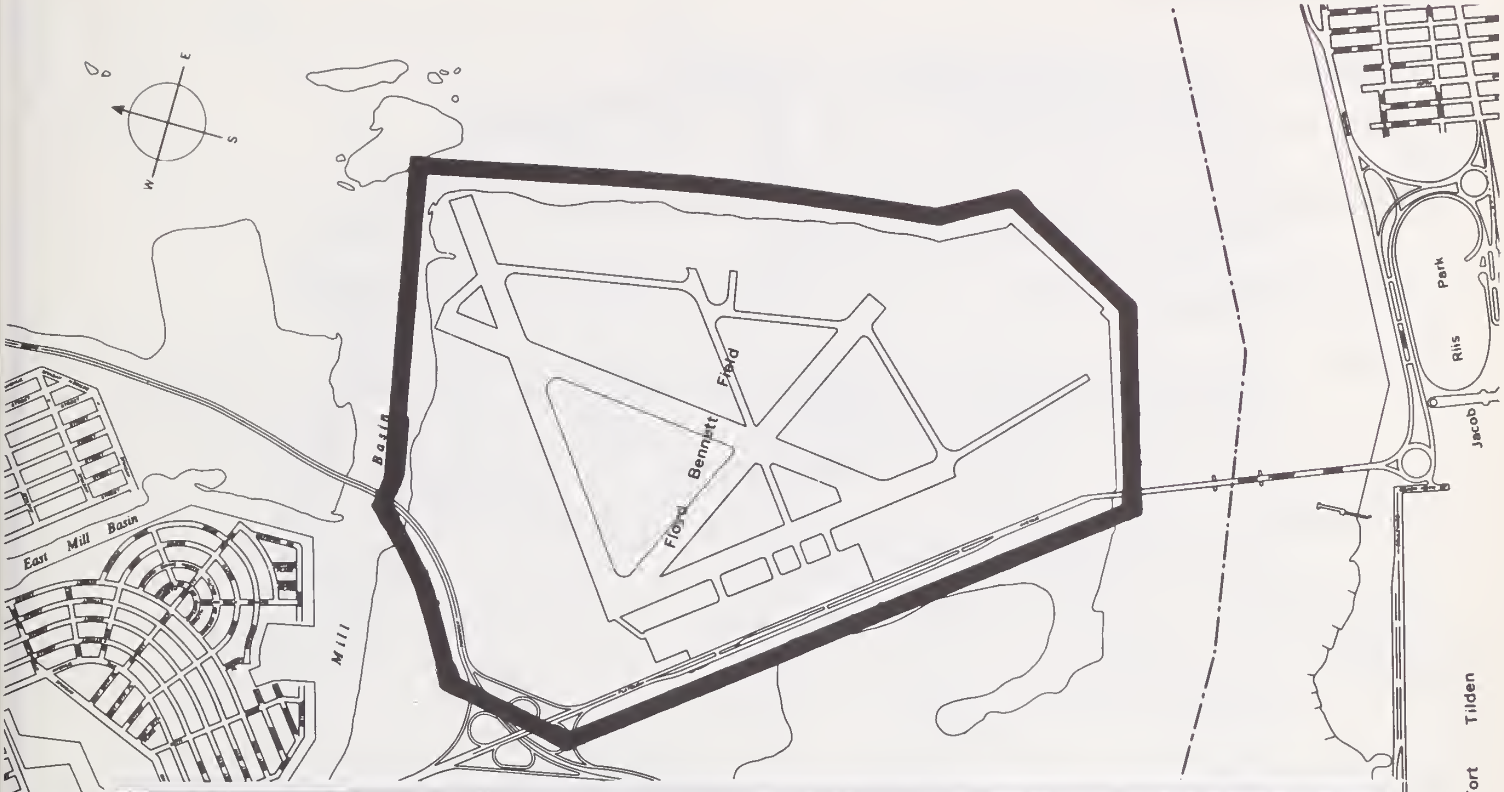
ENVIRONMENT: 72" water main must be extended seven miles down Flatbush Avenue at cost of $60 million; technical feasibility questionable; new sewer system and treatment required; 30-40 NEF zone due to Kennedy flight path.

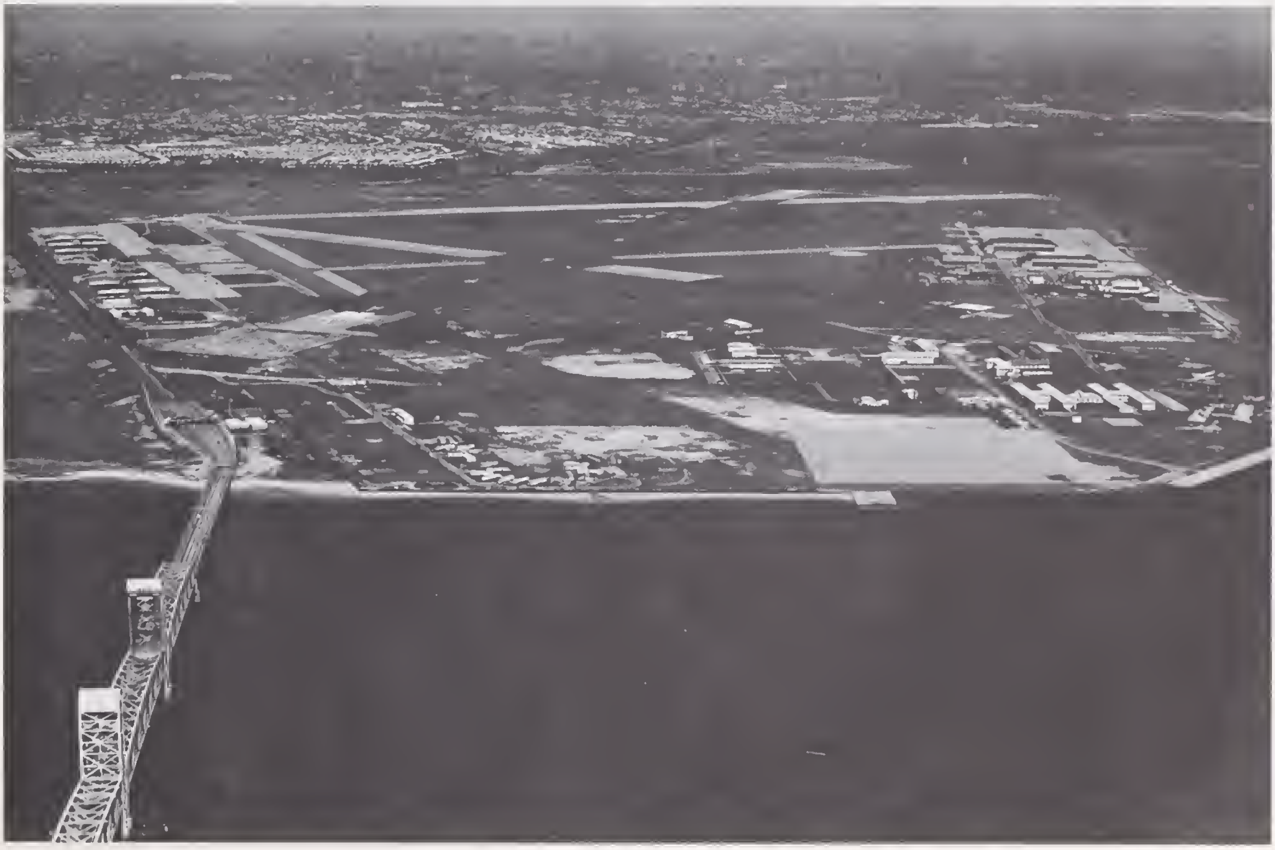
RETAIL/COMMERCIAL: Major primary shopping facilities for 50,000 families would be required.

DENSITY AND SCHOOL NEEDS:

Zoning Possibilities	Number of Units	Students Generated K-4/5-8	Overload-Underload K-4/5-8
		16,300	+16,000
R6	45,000	9,000	+ 9,000

Floyd Bennett Field





BROOKLYN

SITE: Fulton Ferry

ACREAGE: TOTAL: 50 Residential - 42.5

EXISTING ZONING: M2-1, M3-1

SITE PREPARATION: Major industrial relocation load (3600 jobs): thriving area; demolition of old warehouses.

FACILITIES/SPECIAL FACTORS: Splendid views of lower Manhattan.

ACCESS: 1/4 mile from subway; Brooklyn and Manhattan Bridges, and Brooklyn-Queens Expressway adjacent; internal access difficult due to heavy traffic on Fulton St.; pedestrian approaches to subway station hazardous; no pedestrian access to waterfront; BQE separates site from Brooklyn Heights.

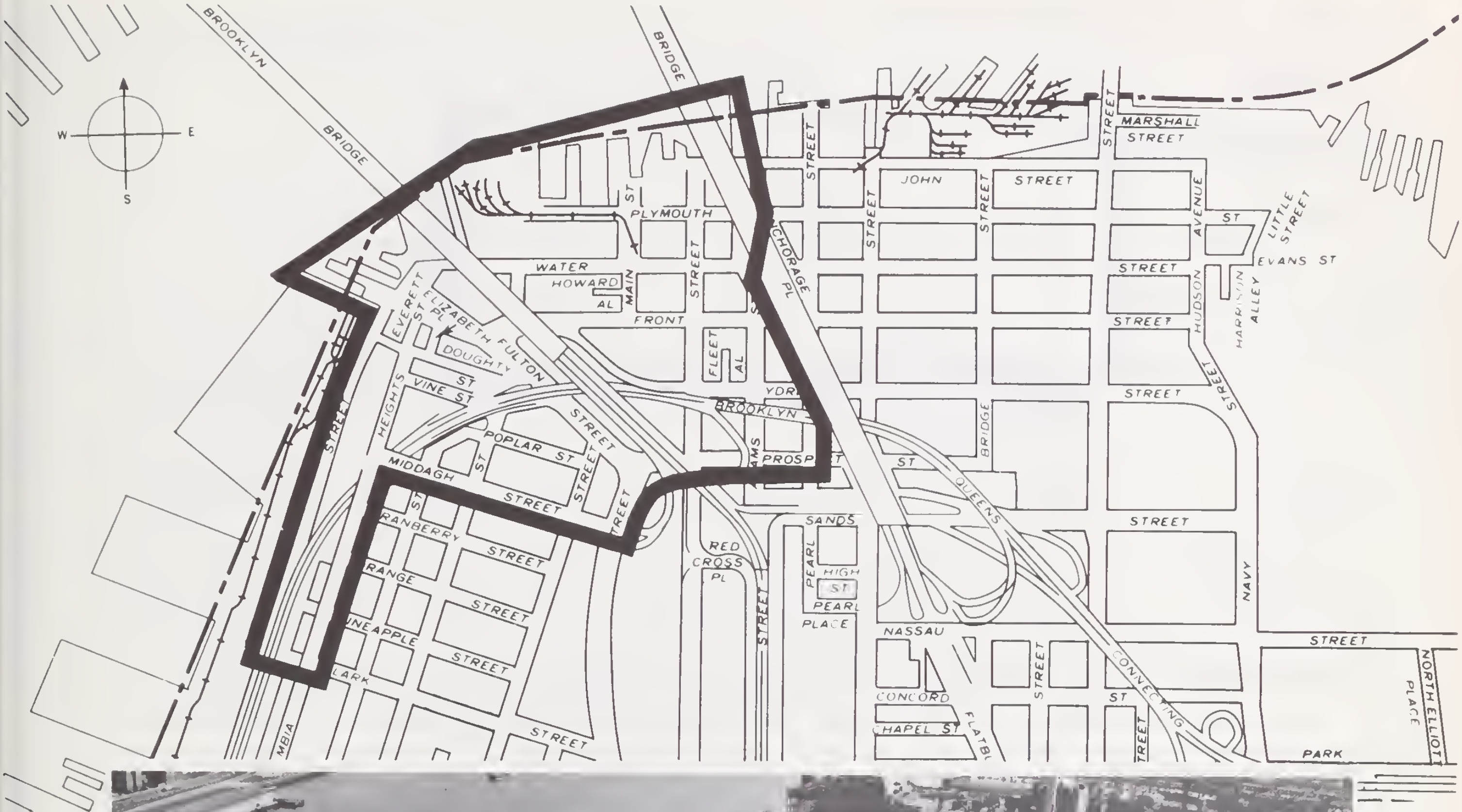
ENVIRONMENT: Severe air and noise pollution from bridges and expressway; sewer and water systems adequate.

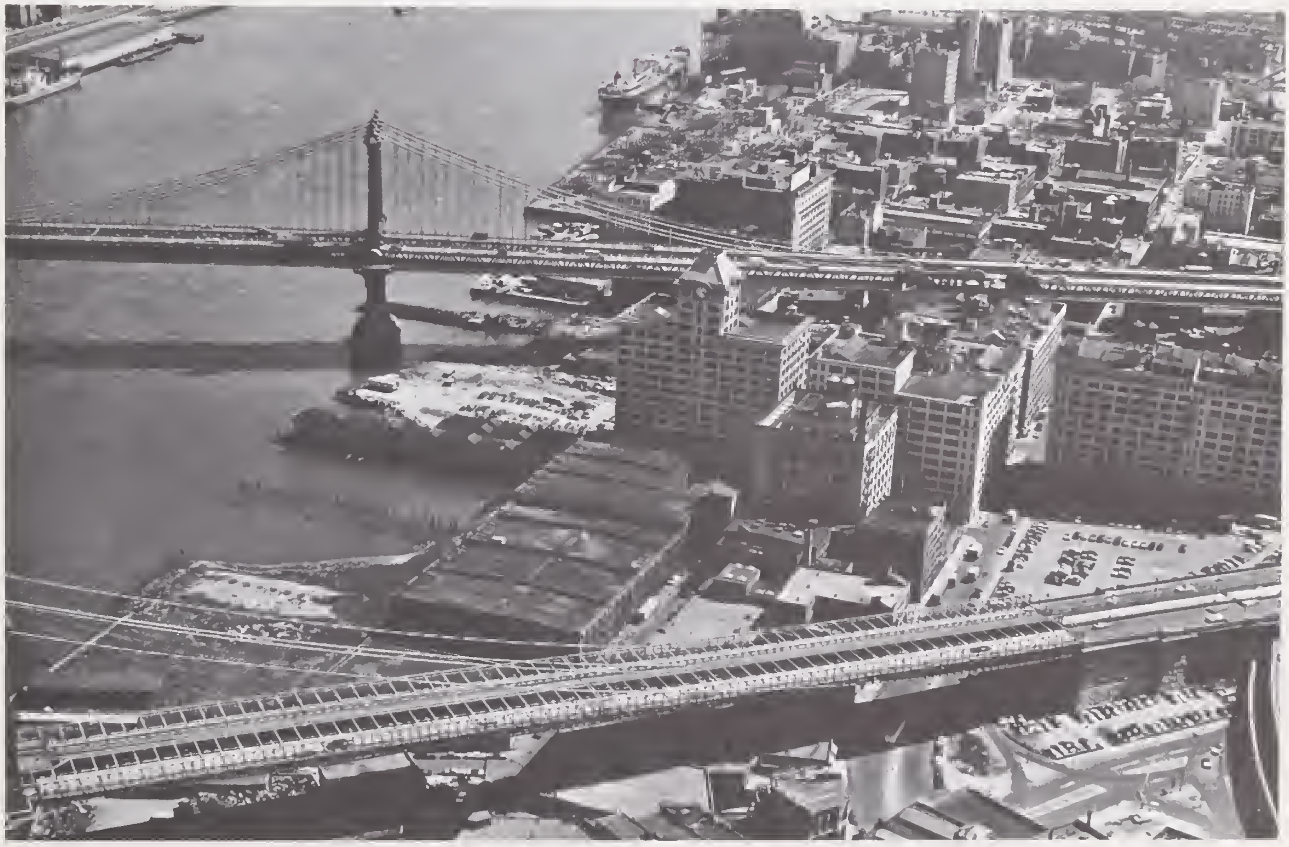
RETAIL/COMMERCIAL: Major convenience and some primary shopping needed.

DENSITY AND SCHOOL NEEDS:

Zoning Possibilities	Number of Units	Students Generated K-4/5-8	Overload-Underload K-4/5-8
R7	5,600	2,800	+1,800
		1,400	+1,100
R8	9,200	4,500	+3,600
		2,300	+2,000

Fulton Ferry





BROOKLYN

SITE: Harbor Houses

ACREAGE: Total - 12.3 Residential - 12.3

EXISTING ZONING: MI-2

HISTORY: International Longshoremen's Assoc. proposal for three 35-story towers would be tallest structures in Brooklyn.

SITE PREPARATION: Decking over the active Brooklyn BMT/IND subway yards required.

FACILITIES/SPECIAL FACTORS: Sunset Park 3 blocks away; adjoins Greenwood Cemetery; Lutheran Medical Center and Maimonides Hospital 1/2 mile away.

ACCESS: 1/4 mile from BMT/IND subway; access to Gowanus Expressway 3/4 miles away.

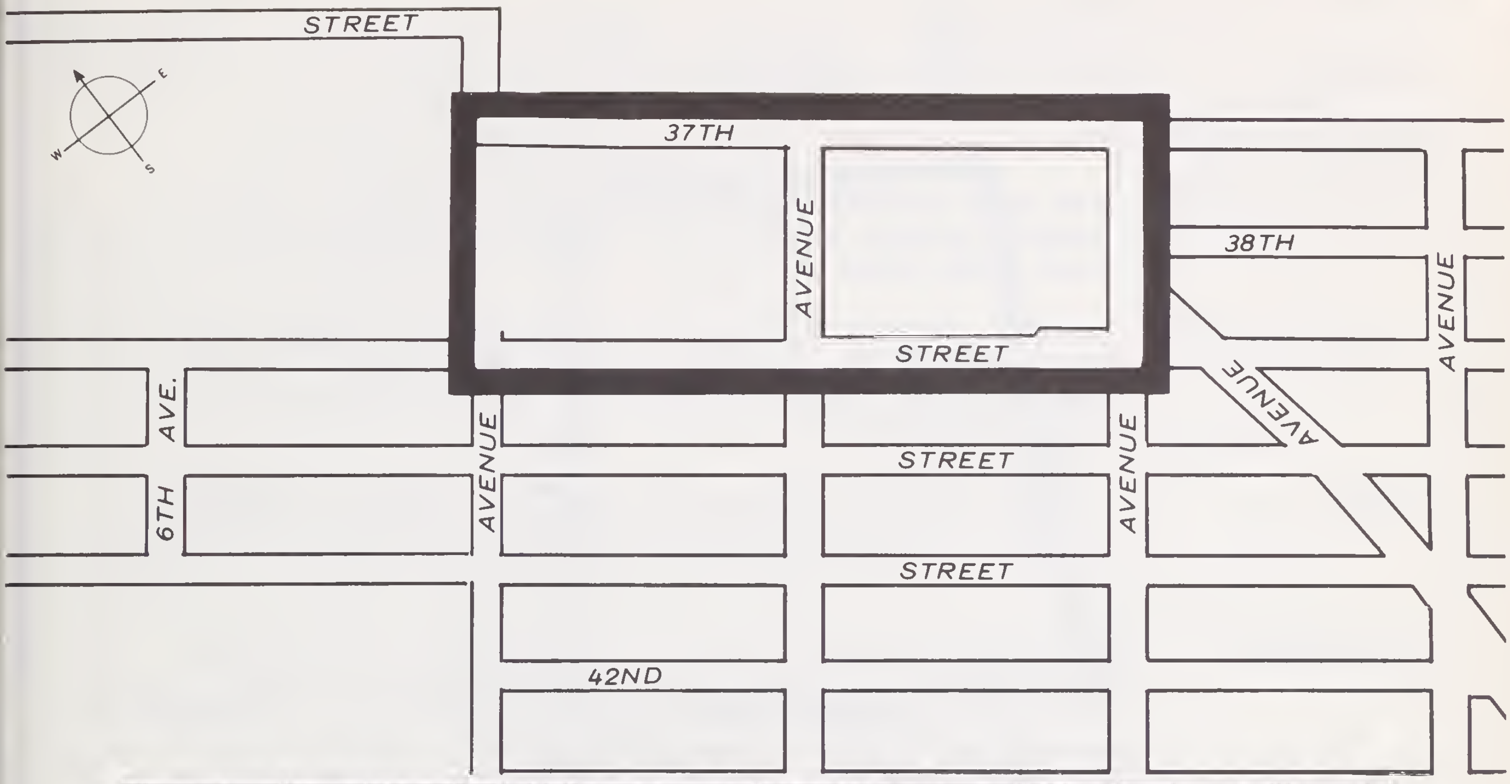
ENVIRONMENT: Air and noise problems typical of platform construction; sewer and water facilities adequate.

RETAIL/COMMERCIAL: No commercial facilities needed on site; development could help revitalize surrounding commercial areas.

DENSITY AND SCHOOL NEEDS:

Zoning Possibilities	Number of Units	Students Generated K-4/5-8	Overload-Underload K-4/5-8
R5	600	300	+500
		150	+400
R6	1,200	600	+800
		300	+500
R7	1,600	800	+1,000
		400	+ 600

Harbor Houses



BROOKLYN

SITE: Spring Creek

ACREAGE: Total - 260 Residential - 70

EXISTING ZONING: R3-2

SITE PREPARATION: Poor soil conditions - piling necessary; some infrastructure (sewers, primary roads, etc.) already installed pursuant to Fresh Creek Urban Renewal Plan.

FACILITIES/SPECIAL FACTORS: Gateway National Park borders on the south; new State Mental Hygiene facility now in operation on part of site. Starrett City (5,800 apartments) in construction to west of Spring Creek site.

ACCESS: 1 mile from IRT, 1/4 mile from proposed 14th St. - Canarsie extension; nearest bus line on Fountain Avenue; re-routing of other nearby lines desirable; Shore Parkway adjacent to site on south.

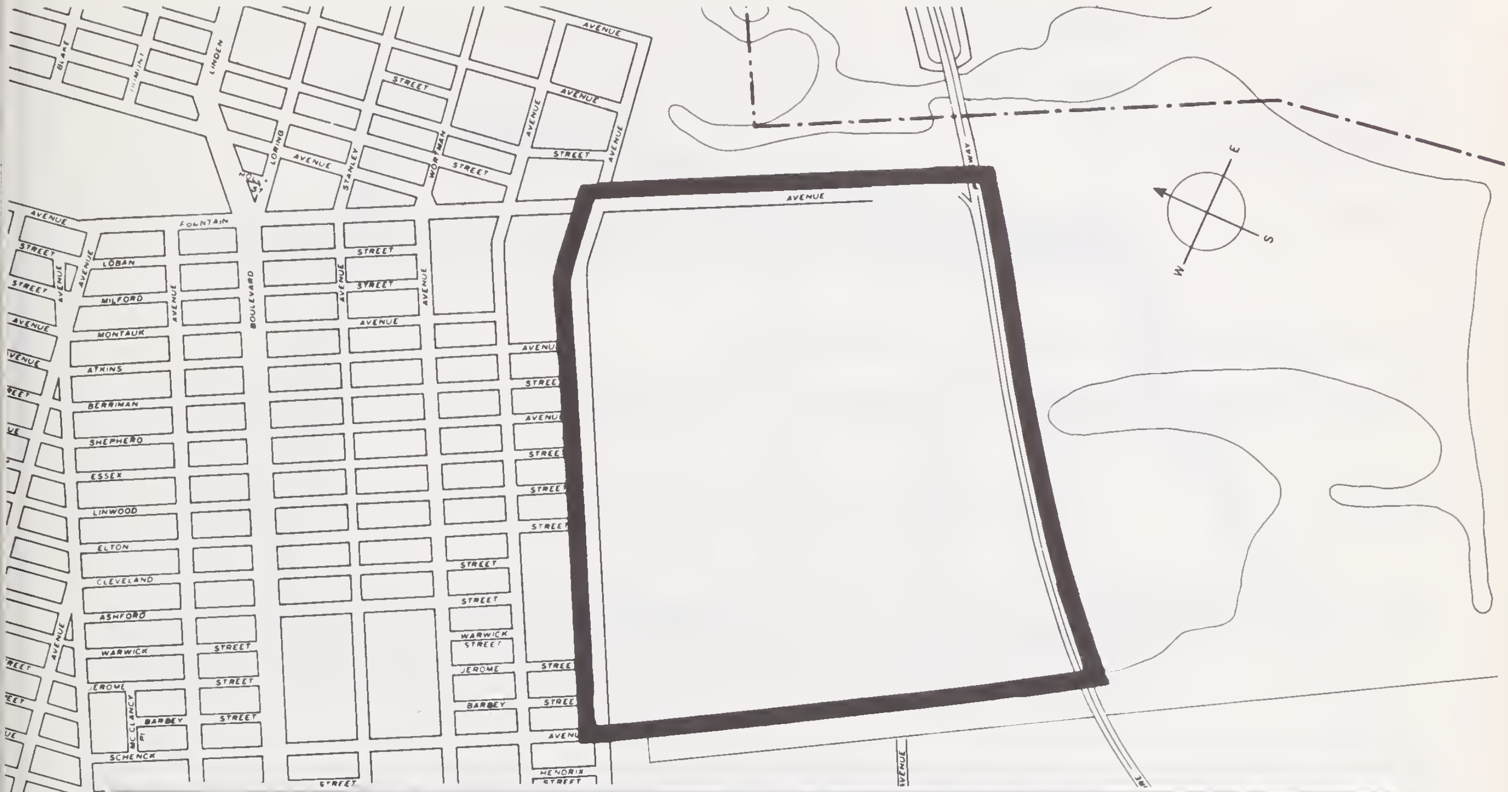
ENVIRONMENT: JFK flight path over southern portion of site: 20-40 NEF; northern strip most appropriate for low-rise residential development; southern portion of site appropriate for commercial recreation; odor from nearby sludge pits; water and sewer facilities adequate.

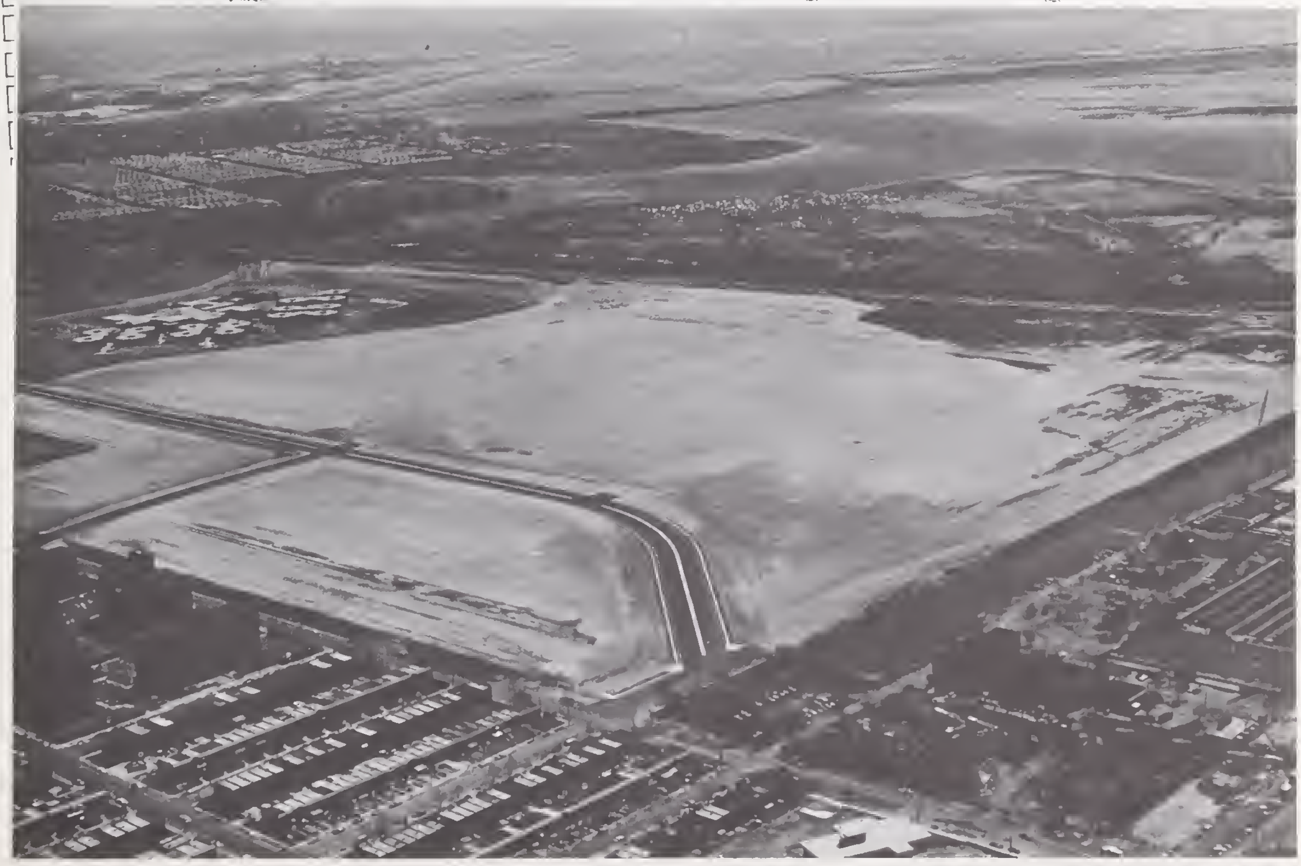
RETAIL/COMMERCIAL: Major convenience and some primary retailing needed on site; auto access to Kings Plaza.

DENSITY AND SCHOOL NEEDS:

Zoning Possibilities	Number of Units	Students Generated K-4/5-8	Overload-Underload K-4/5-8
R3-2	1,800	500 400	+500 +800
R3-2 PUD	2,100	600 400	+600 +800
R4	2,500	700 500	+700 +900
R4 PUD	4,400	1,300 900	+1,300 +1,300

Spring Creek





BROOKLYN

SITE: Starrett City

ACREAGE: Total - 152 Residential - 114

EXISTING ZONING: R5

HISTORY: Development started by United Housing Foundation, taken over by Starrett Brothers and Eken; in construction now, occupancy expected in 1974.

SITE PREPARATION: Landfill and pilings used.

FACILITIES/SPECIAL FACTORS: 125,000 sq. ft. of commercial and community space built on site.

ACCESS: 1 1/4 mile from IRT, 1/2 mile from proposed Canarsie subway extension; Shore Parkway adjacent to site on south.

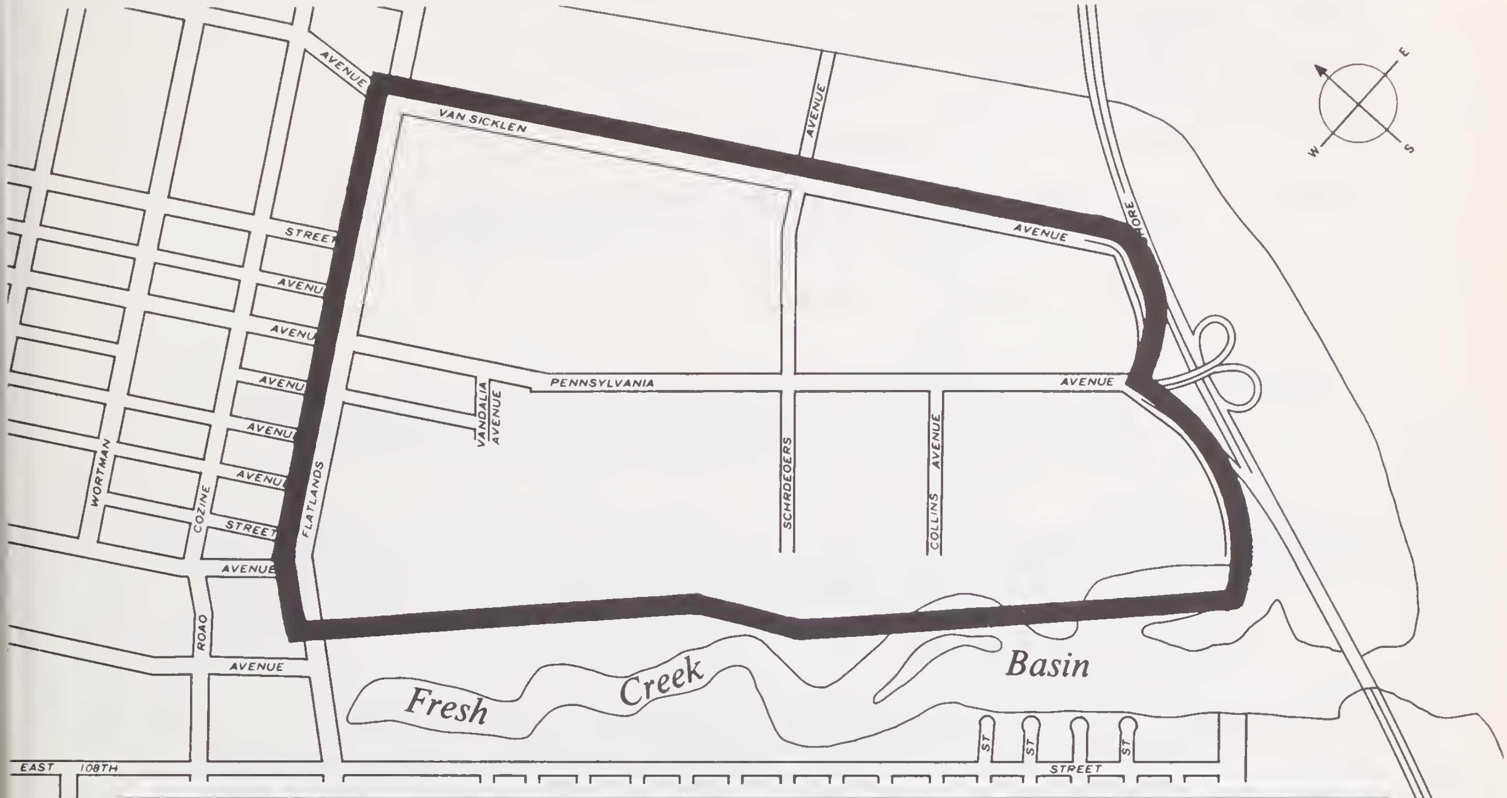
ENVIRONMENT: Water and sewer systems adequate; JFK flight path -- 30 NEF Zone; odor problem from pollution control plant; development includes acoustic treatment in buildings, self-contained sewer system, and power plant.

RETAIL/COMMERCIAL: Major convenience and some primary shopping needed; good access to Kings Plaza - major shopping area.

DENSITY AND SCHOOL NEEDS:

Zoning Possibilities	Number of Units	Students Generated K-4/5-8	Overload-Underload K-4/5-8
		2,900	+2,800
R5	5,800	1,500	- 400

Starrett City



MANHATTAN

SITE: Battery Park City

ACREAGE: Total - 100.0 Residential - 52.7

EXISTING ZONING: Special Zoning District

HISTORY: State-financed projecteunder Battery Park City Authority has received approval; construction to begin shortly.

SITE PREPARATION: Entirely landfill.

FACILITIES
SPECIAL FACTORS: 1/4 mile from Battery Park; within 3/4 mile of City Hall Park; near many City government resources; 3 schools needed - (2 primary, 1 secondary); development will utilize subways at off-peak hours.

ACCESS: 1/4 mile from IRT, within 1/2 mile of BMT, IND; 1/2 mile from Staten Island Ferry; West Side Highway alignment not yet determined, but will be through site; public access to waterfront should be provided.

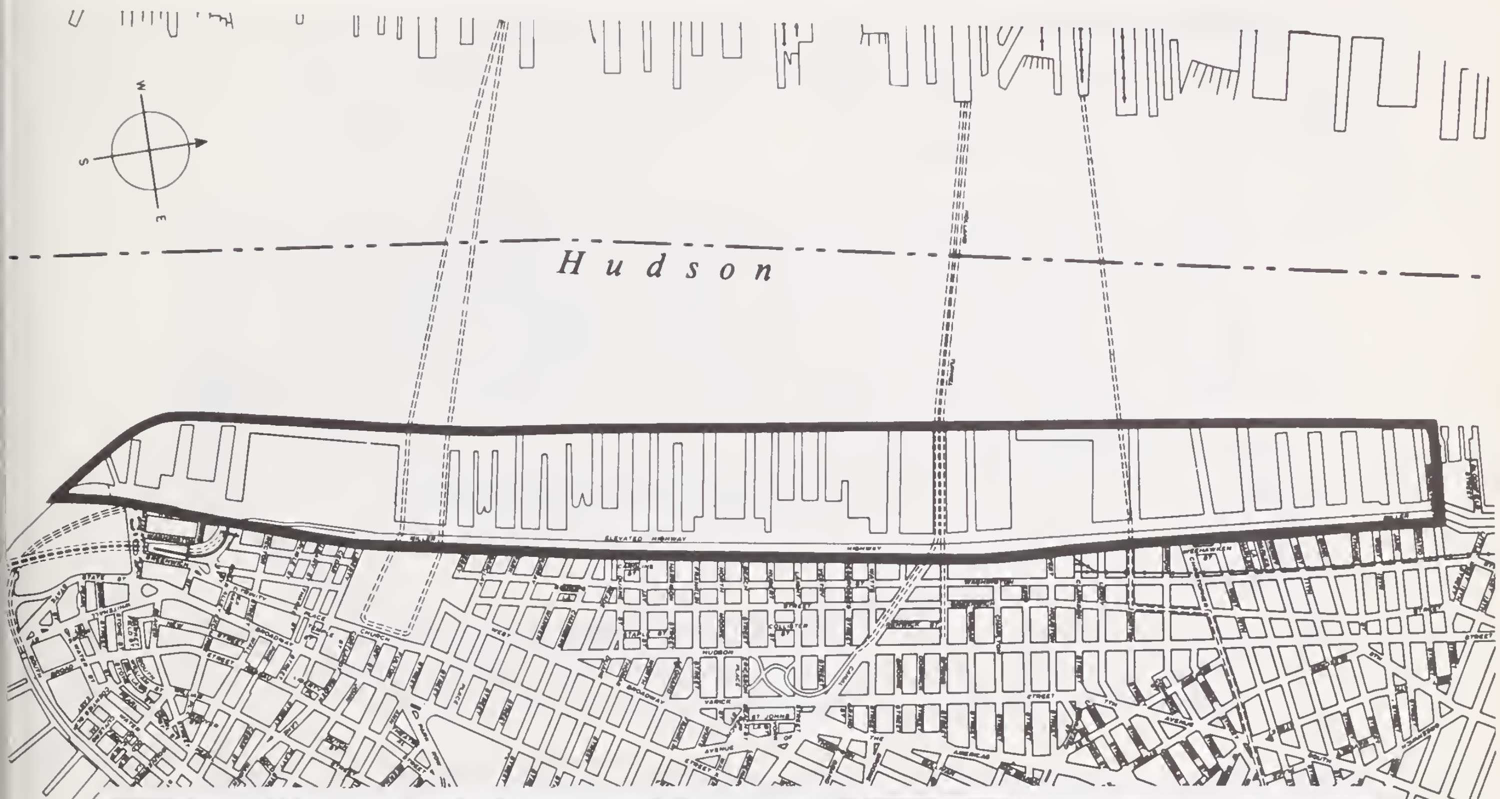
ENVIRONMENT: West Side Highway design (whether open cut, tunnel, or elevated) will affect air quality and noise level; sewer and water systems may require reconstruction; existing raw sewage discharges will have to be intercepted to minimize odor and aesthetic problems.

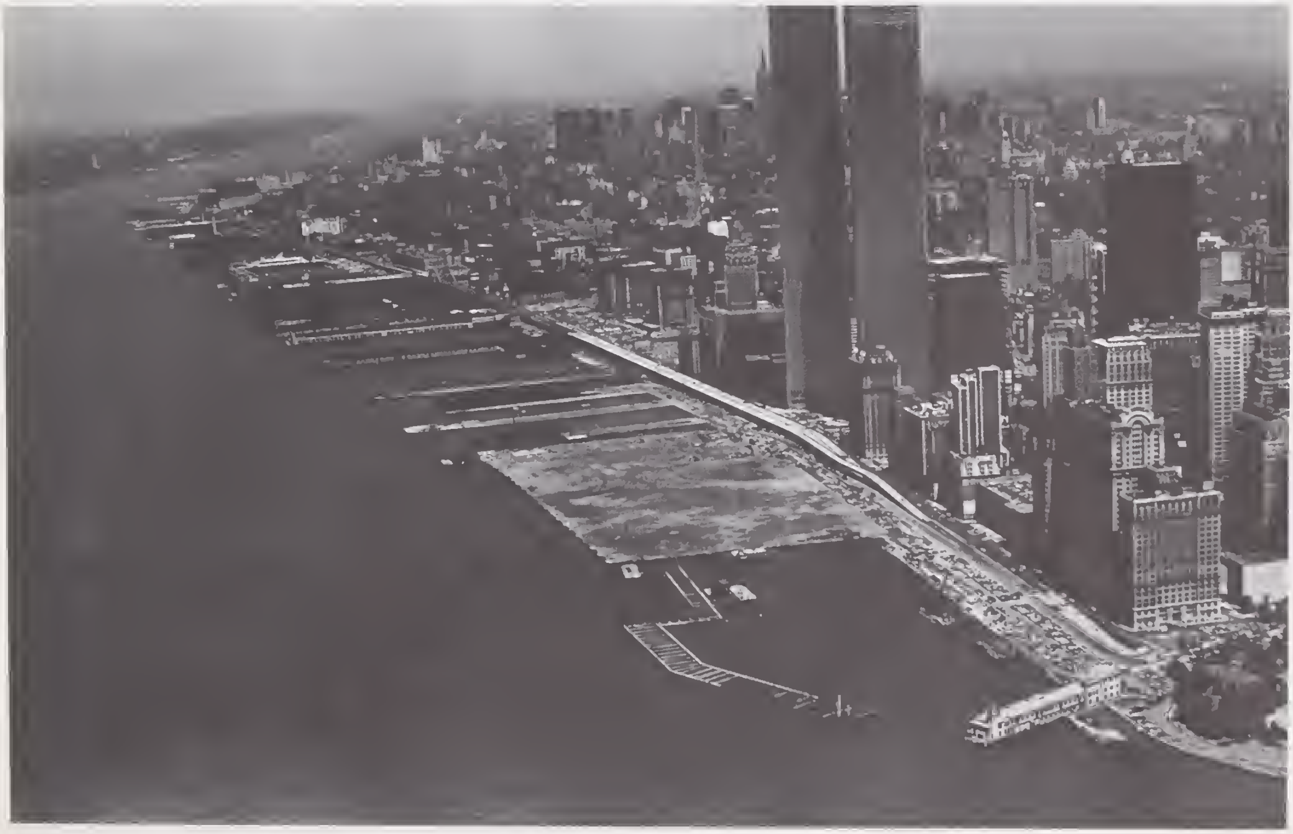
RETAIL/COMMERICAL: Major convenience shopping necessary; primary shopping for new residents and for the daytime lower Manhattan population.

DENSITY AND SCHOOL NEEDS:

Zoning Possibilities	Number of Units	Students Generated K-4/5-8	Overload-Underload K-4/5-8
Special District (Max. 285 DU's/ Acre)	14,000	2600 1300	0 -1100

Battery Park City





MANHATTAN

SITE: Manhattan Landing

ACREAGE: Total - 113 Residential - 20

EXISTING ZONING: R10 equivalent

HISTORY Manhattan Landing is a total community; the project will have 6,500 units of conventionally financed housing, six million square feet of commercial space, including a Korvette's department store, two new parks and a waterfront esplanade, a 400-room hotel, a 1,000 car municipal garage, a marina and sports center, an oceanography exhibit center, and a telephone equipment building. Most development will be on platforms over the river. Plan approved, construction to begin soon.

SITE PREPARATION: To be built on piles and decking; problems of utility connections and deterioration of deck in water, typical of decked waterfront sites.

FACILITIES/SPECIAL FACTORS: Excellent proximity to financial and government districts, and South Street Seaport; on-site school space to be provided; development opens Lower Manhattan to 24-hour use.

ACCESS: Within 1/4 to 1/2 mile of many subways: utilization of facilities in off-peak times and directions; adjoins S.I. Ferry Terminal and FDR Drive; development could open pedestrian access to waterfront.

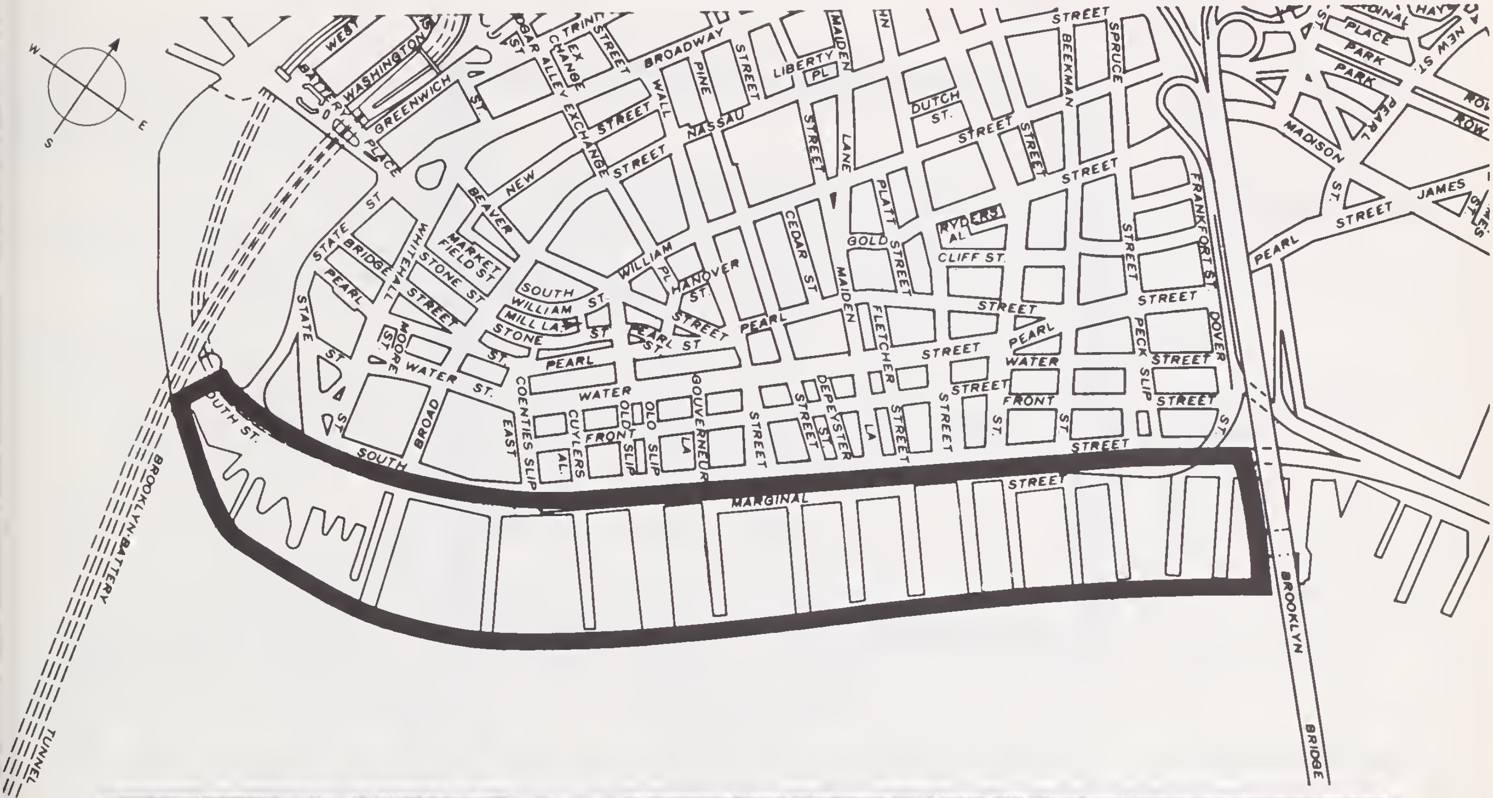
ENVIRONMENT: Age of existing water mains and sewers may become problem; raw discharges must be extended beyond platform to avoid build-up of sewage under slab and corrosion of platform; new interceptor should limit discharge to storm overflow; possible air and noise problems from South Street viaduct and Brooklyn Bridge.

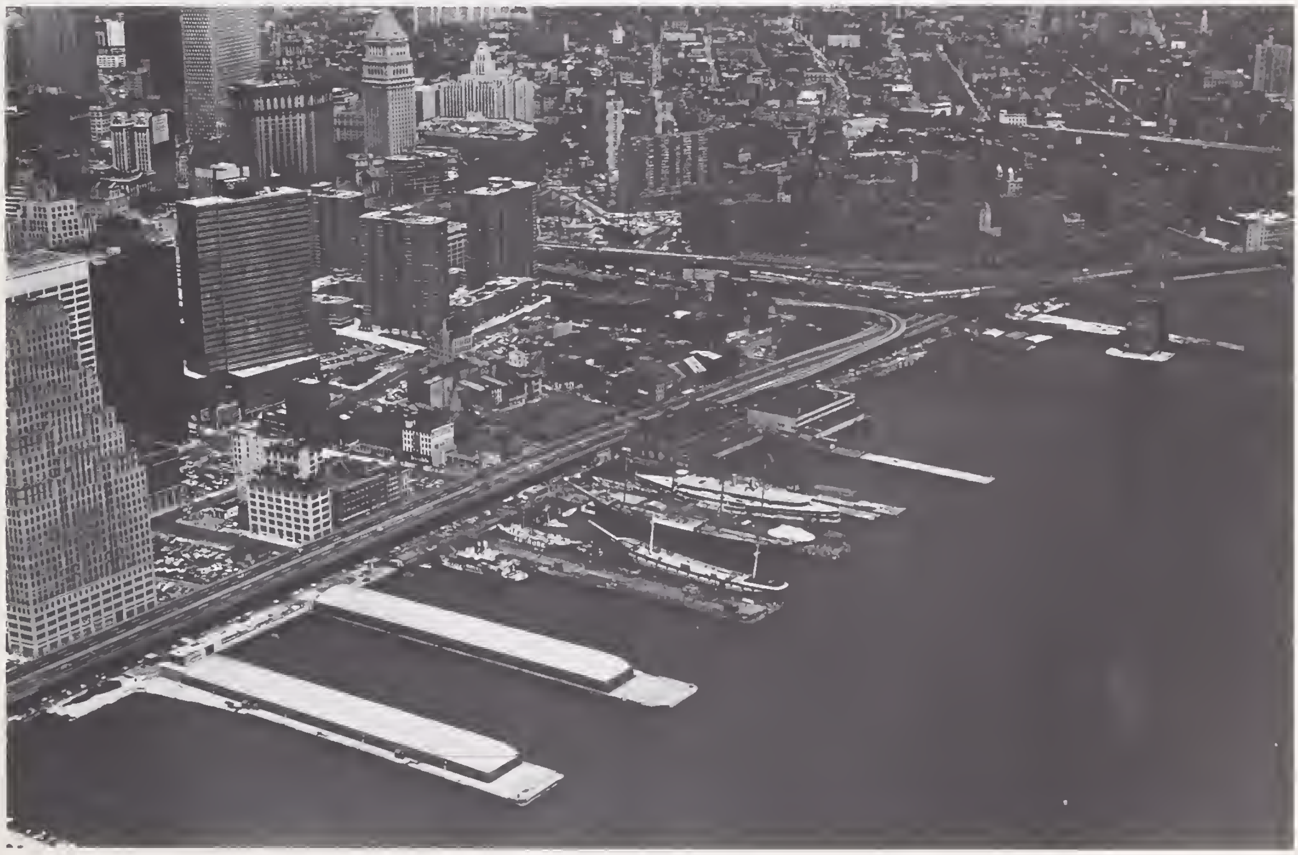
RETAIL/COMMERCIAL: On-site major convenience and primary shopping facilities necessary. Shopping facilities will also serve Lower Manhattan work force during day.

DENSITY AND SCHOOL NEEDS:

Zoning Possibilities	Number of Units	Students Generated K-4/5-8	Overload-Underload K-4/5-8
R10 Commercial equivalent	6,500	700 200	+400 -300

Manhattan Landing





MANHATTAN

SITE: Manhattanville West

ACREAGE: Total - 23.5 Residential - 20.0

EXISTING ZONING: M1-2, M-3

SITE PREPARATION: 2 acres landfill; much land city-owned, but difficult industrial relocation problem (1,300 jobs in seventy firms, plus 1,300 in MABSTOA garage); uneven bedrock shelf as foundation; Penn Central, Hudson Parkway, Riverside Drive, and IRT viaducts cross and abut site, may cause major structural and environmental problems.

FACILITIES/SPECIAL FACTORS: Spectacular view of Palisades; Riverside Park nearby; marketability at this site is extremely limited without large, presently unavailable housing subsidies.

ACCESS: 3/8 mile from subway; Henry Hudson Parkway adjoins site.

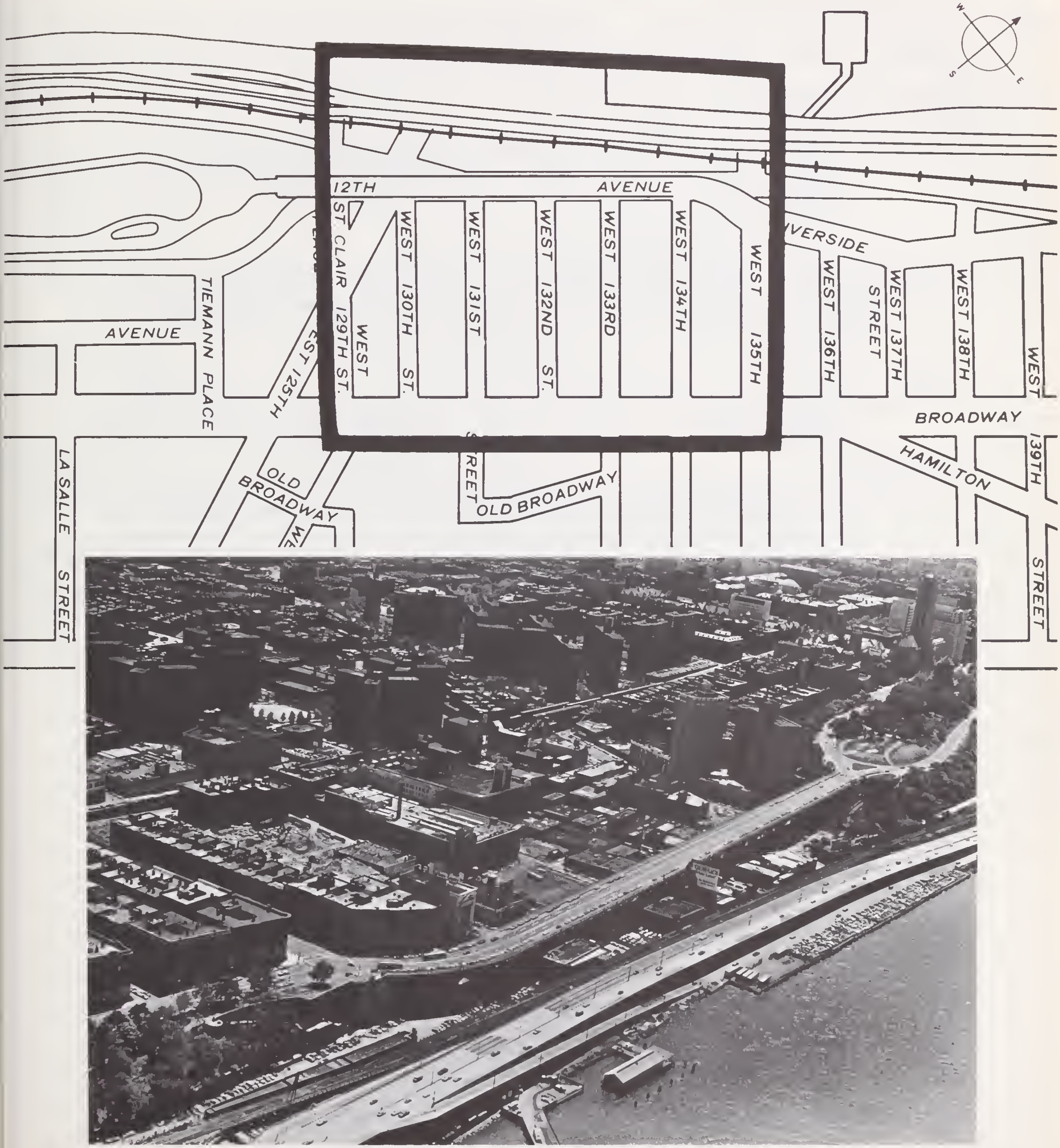
ENVIRONMENT: Possibility of improved public use of waterfront; the present 4 viaducts cause air and noise problems; sewer regulator overflow problems, due to construction over water; traffic congestion and perhaps odor problem from 137th Street Department of Sanitation Marine Transfer Station.

RETAIL/COMMERCIAL: Primary shopping facilities available on 125th Street; convenience shopping necessary on site.

DENSITY AND SCHOOL NEEDS:

Zoning Possibilities	Number of Units	Students Generated K-4/5-8	Overload-Underload K-4/5-8
R7	2,300	900	+700
		500	-400
R8	3,700	1,500	+1,200
		800	-100

Manhattanville West



MANHATTAN

SITE: Sherman Creek

ACREAGE: Total - 100 Residential - 85

EXISTING ZONING: MI-1, M2-1, M3-1

SITE PREPARATION: High land acquisition and decking costs; industrial relocation problems; difficult relocation of City facilities, including Transit Authority bus garage and police property storage yard.

FACILITIES/
SPECIAL FACTORS: Highbridge, Inwood Hill, Fort Tryon - adjacent excellent parks; development must include school facilities; development at higher densities would also tax other facilities in existing community.

ACCESS: One-eighth mile from IRT, three-eighths mile from IND; the Major Deegan Expressway adjoins site; 207th Street bridge already crowded traffic re-direction desirable.

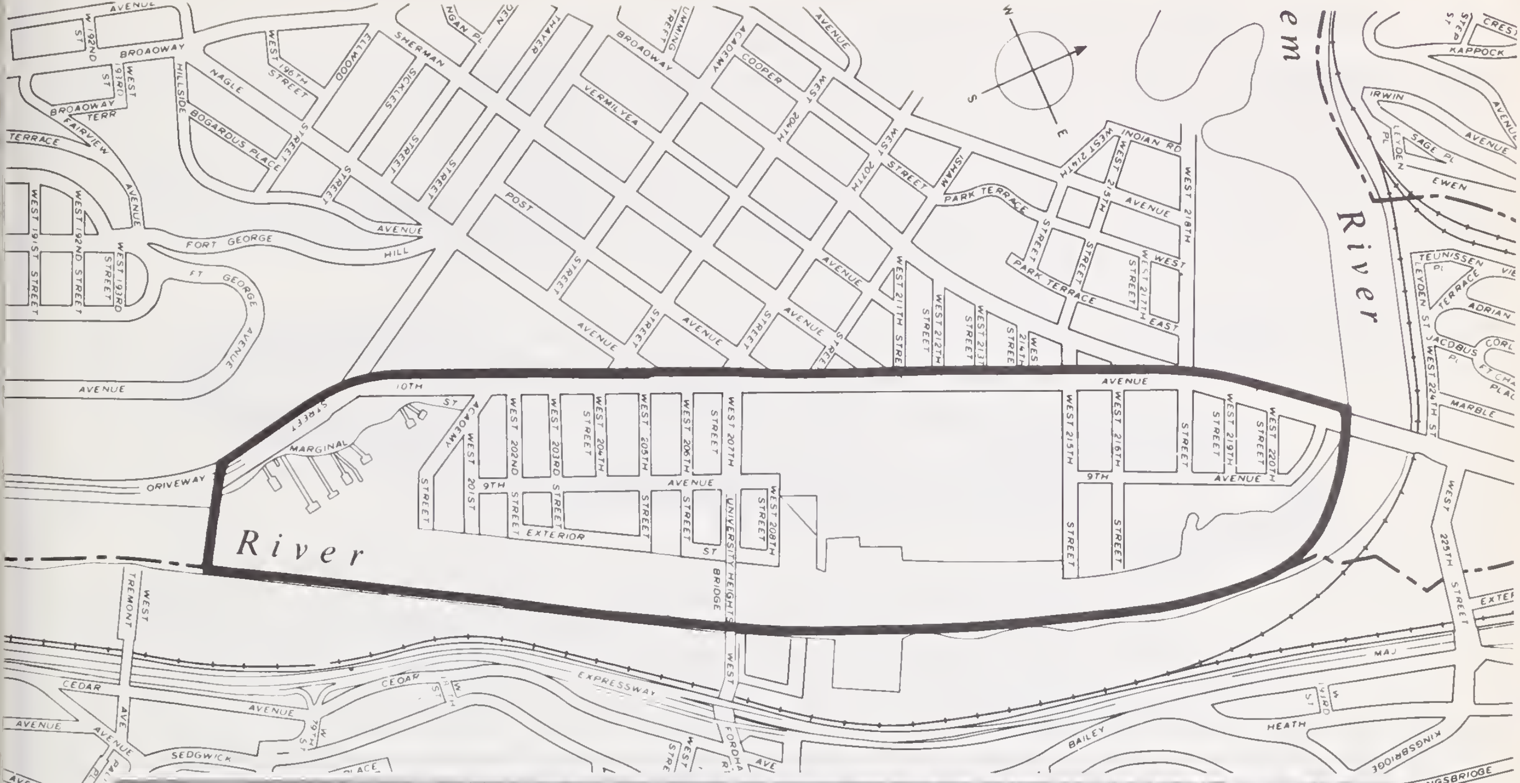
ENVIRONMENT: Elevated subway and additional traffic would cause air and noise problems; improved sewer service necessary; development could increase access and improve utilization of waterfront for existing community.

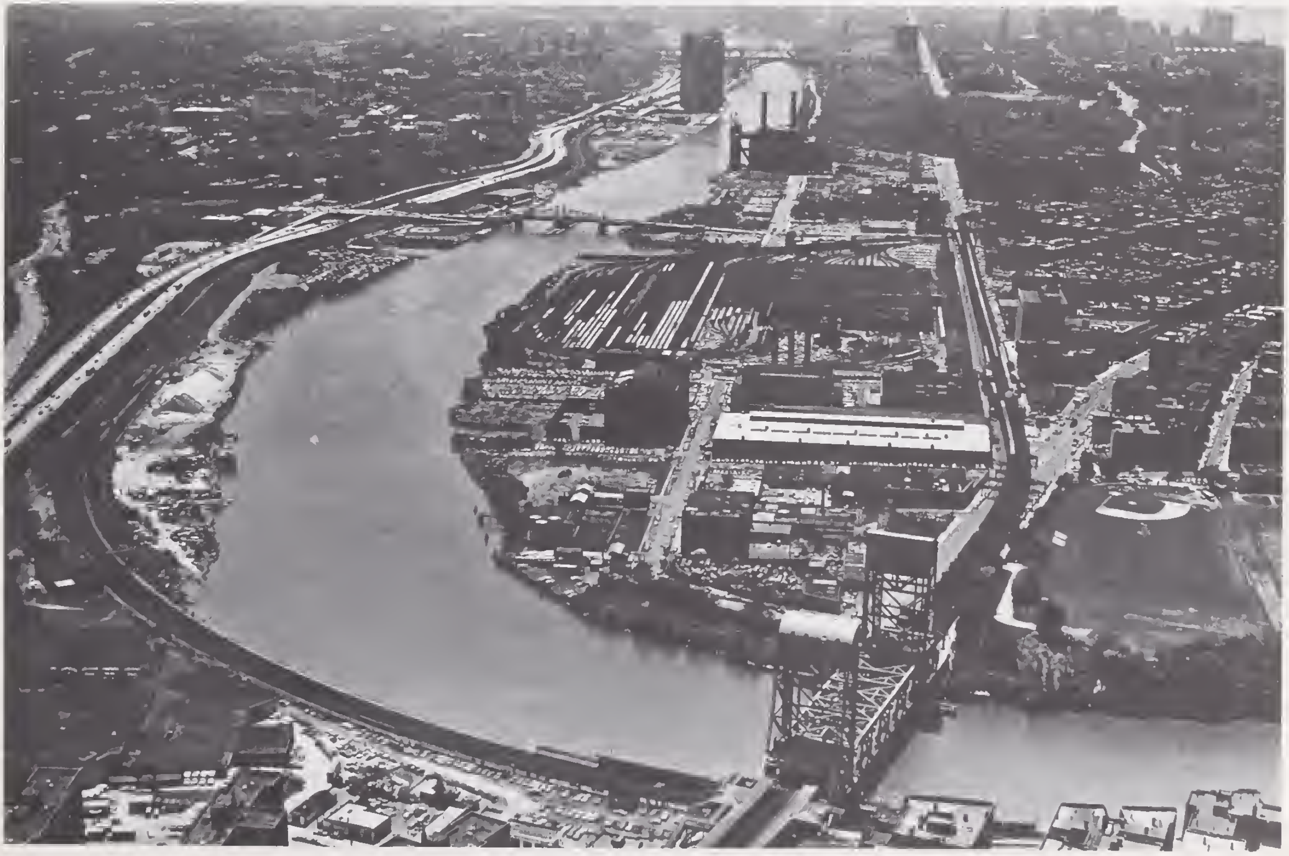
RETAIL/COMMERCIAL: Direct access to Fordham Road shopping area in Bronx; Dyckman Street and West 207th Street - shopping facilities now exist. Additional on-site major convenience and primary shopping necessary.

DENSITY AND SCHOOL NEEDS:

Zoning Possibilities	Number of Units	Students Generated K-4/5-8	Overload-Underload K-4/5-8
R7	9,700	3,800 2,200	+3,600 +2,400
R8	15,900	6,200 3,600	+6,000 +3,900

Sherman Creek





MANHATTAN

SITE: Welfare Island (Roosevelt Island)

ACREAGE: Total - 147 Residential - 45

EXISTING ZONING: R7-2

SITE PREPARATION: UDC development now in construction; occupancy expected in 1975.

FACILITIES/
SPECIAL FACTORS: New on-site schools to be provided; Goldwater, City and Coller Hospitals already located on site; cluster housing has enabled UDC to develop maximum open space. Other facilities such as police station, fire station, to be provided on Island. "Motorgate" garage for 2,500 cars will be built at end of Welfare Island Bridge, with minibus access to rest of Island: Is this enough parking?

ACCESS: Future 63rd Street subway to Queens and Manhattan; interim tramway system proposed until subway completed; automobile access by Queens-Welfare Island bridge and extremely congested Queensboro Bridge; proposed minibus system for on-site transportation; no cars allowed beyond Motorgate.

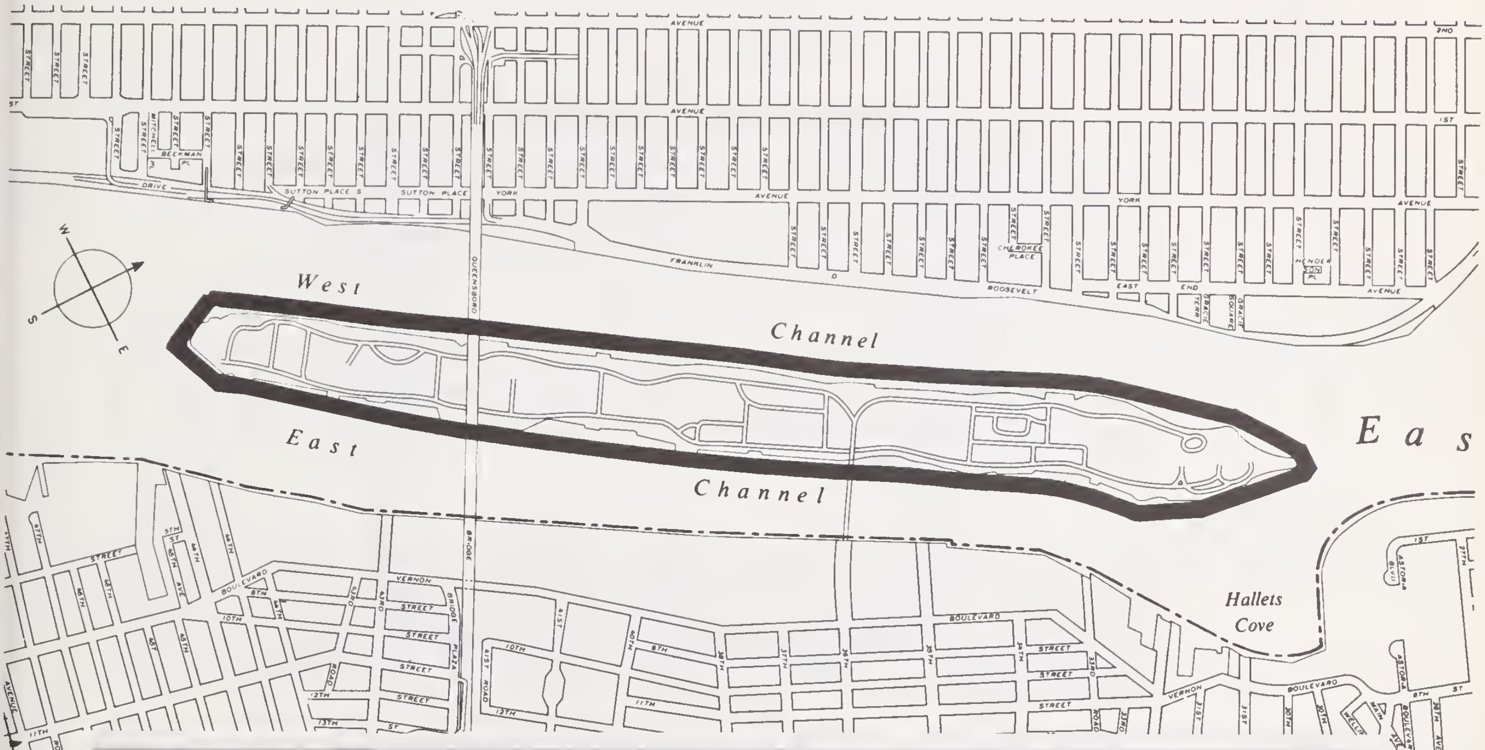
ENVIRONMENT: Public access to waterfront made a high priority; innovative pneumatic solid-waste disposal system.

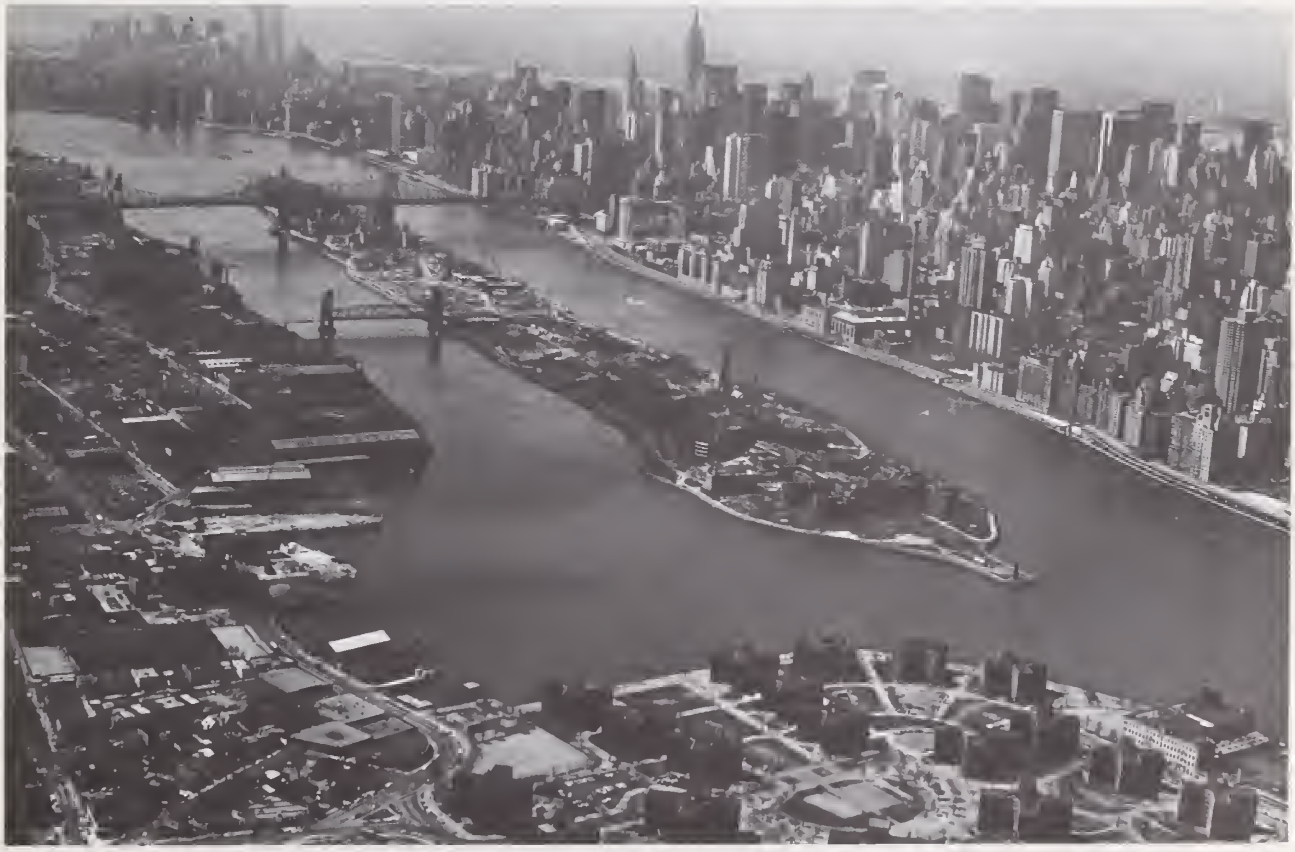
RETAIL AND COMMERCIAL: On-site commercial space planned; marketability of office space and economic vitality of retail space in question.

DENSITY AND SCHOOL NEEDS:

Zoning Possibilities	Number of Units	Students Generated K-4/5-8	Overload-Underload K-4/5-8
		1,300	+200
R7-2	5,000	700	-600

Welfare Island





MANHATTAN

SITE: West 30th St. Yards

ACREAGE: TOTAL: 14.9 Residential - 12.7

EXISTING ZONING: M1-5,M2-3

HISTORY: Site had been considered by Post Office for decking and expansion -- up to 1,000,000 square feet of Post Office space with 2800 to 4800 apartments above. Proposal dropped when Post Office decided to build Morgan Annex and keep existing General Post Office.

SITE PREPARATION: Substantial costs of air rights acquisition, platform construction and pile driving between tracks in active railroad yard; but single ownership and no relocation necessary.

FACILITIES/
SPECIAL FACTORS: No public open space currently; good river view. Site along waterfront in industrial area with few residential facilities; industrial and service potential of area (use as transportation/service node) might negate residential value.

ACCESS: 5/8 mile from IND, 3/4 mile from IRT; adjoins West Side Highway.

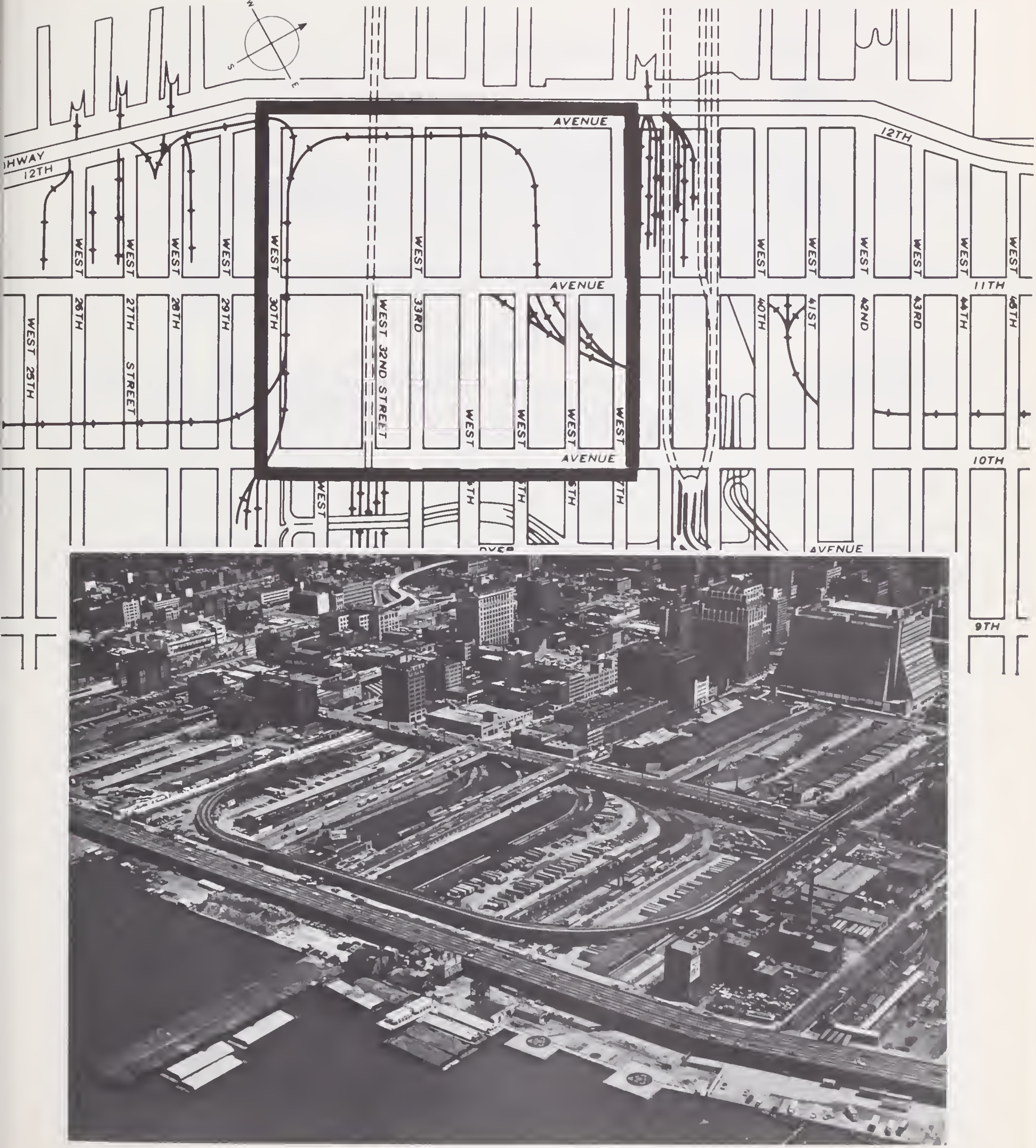
ENVIRONMENT: Air and noise problems from West Side Highway; Pennsylvania Railroad tunnel underneath causes foundation, vibration and ventilation problems; noise problem-proximity to 30th St. heliport.

RETAIL/COMMERCIAL: Major convenience shopping necessary on-site; primary shopping available in 34th St. area.

DENSITY AND SCHOOL NEEDS:

Zoning Possibilities	Number of Units	Students Generated K-4/5-8	Overload-Underload K-4/5-8
R8	2,800	600 300	+300 +300
R9	3,100	600 400	+300 +400
R10	4,100	800 500	+500 +500

West 30th St. Yards



MANHATTAN

SITE: West 60th St. Yards

ACREAGE: Total - 148 Residential - 51

EXISTING ZONING: M1-4

HISTORY: 1963 "Litho City" proposal called for 5-level deck, with 5,300 apartments, waterfront recreation, and a new luxury liner pier and heliport. Modified plan in 1970 proposed 6,000 to 12,000 apartments with commerical, industrial, and recreational facilities.

SITE PREPARATION: Platforming - requires sophisticated engineering; possible redevelopment and realignment of West Side Highway makes exact site configuration uncertain.

FACILITIES/
SPECIAL FACTORS: Lincoln Center within walking distance; adjoins Riverside Park; some school space necessary; site on western edge of burgeoning residential neighborhood.

ACCESS: 1/2 mile from IRT, 3/4 mile from IND; adjoining West Side Highway; walk to Lincoln Center.

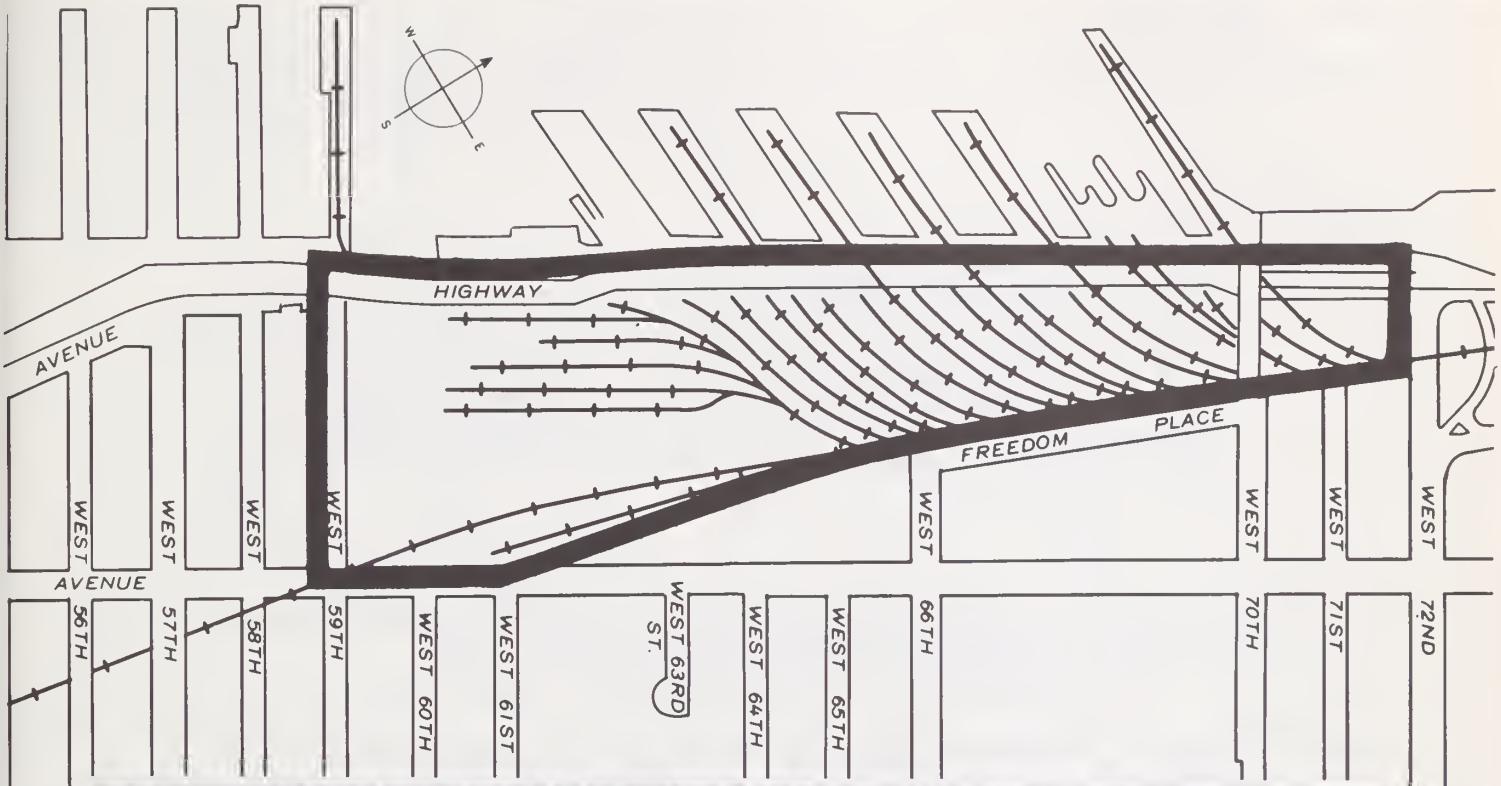
ENVIRONMENT: Development could improve Waterfront access; noise and air. problem from West Side Highway could be changed by possible redevelopment.

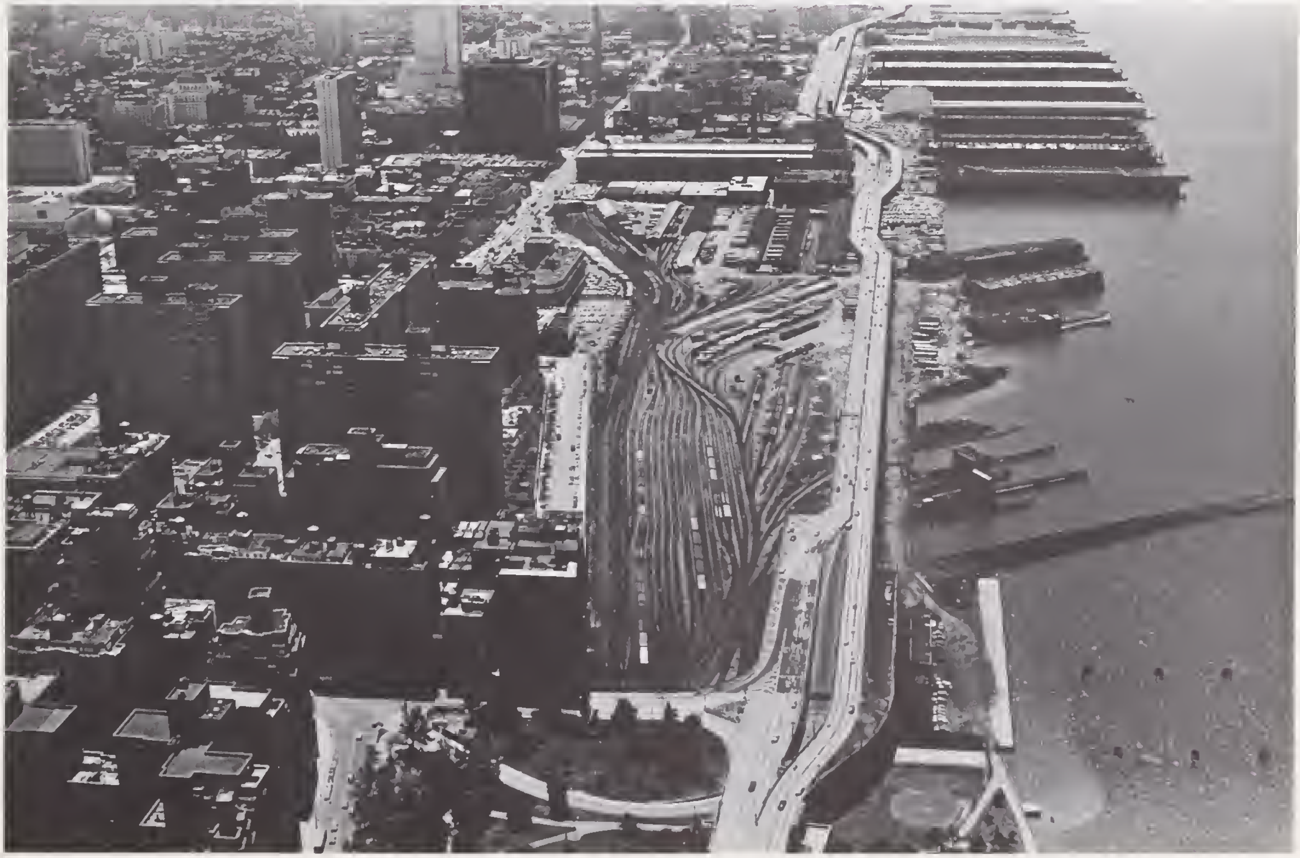
RETAIL/COMMERICAL: Major convenience shopping necessary on-site, and also primary shopping to serve project residents and other area residents.

DENSITY AND SCHOOL NEEDS:

Zoning Possibilities	Number of Units	Students Generated K-4/5-8	Overload-Underload K-4/5-8
R8	11,200	2,400 1,300	+1,600 +1,200
R9	12,600	2,700 1,500	+1,900 +1,400

West 60th St. Yards





QUEENS

SITE: City View

ACREAGE: Total - 340 Residential - 112. Several proposals have also been made for considerably smaller portions of this site.

EXISTING ZONING: M3-1

HISTORY: 1946 - Pomerance and Breines, Percival Goodman study proposed 13,000 units; 1969 - Hart, Krivatsky, Stubee study proposed 2 industrial and 1 residential section; 1970 - Davis and Brody study which evolved to 1971 William Pereira proposal called City View - a complete community with residential, cultural, retail, and employment opportunities; housing would be 20% low-income, 50% middle, 30% upper; public access to waterfront park.

SITE PREPARATION: Possible relocation, or integration into development, of 6,000 residents and 250 businesses.

FACILITIES/
SPECIAL FACTORS: Directly across East River from midtown Manhattan and Welfare Island; continuation and enhancement of nearby unobstrusive industry will reduce relocation and increase feasibility.

ACCESS: Excellent - 4 subway lines, Long Island Railroad cross site; Queensboro Bridge and Queens Midtown Tunnel both serve site; internal circulation limited: heavy traffic, including trucks at present; no pedestrian access to waterfront.

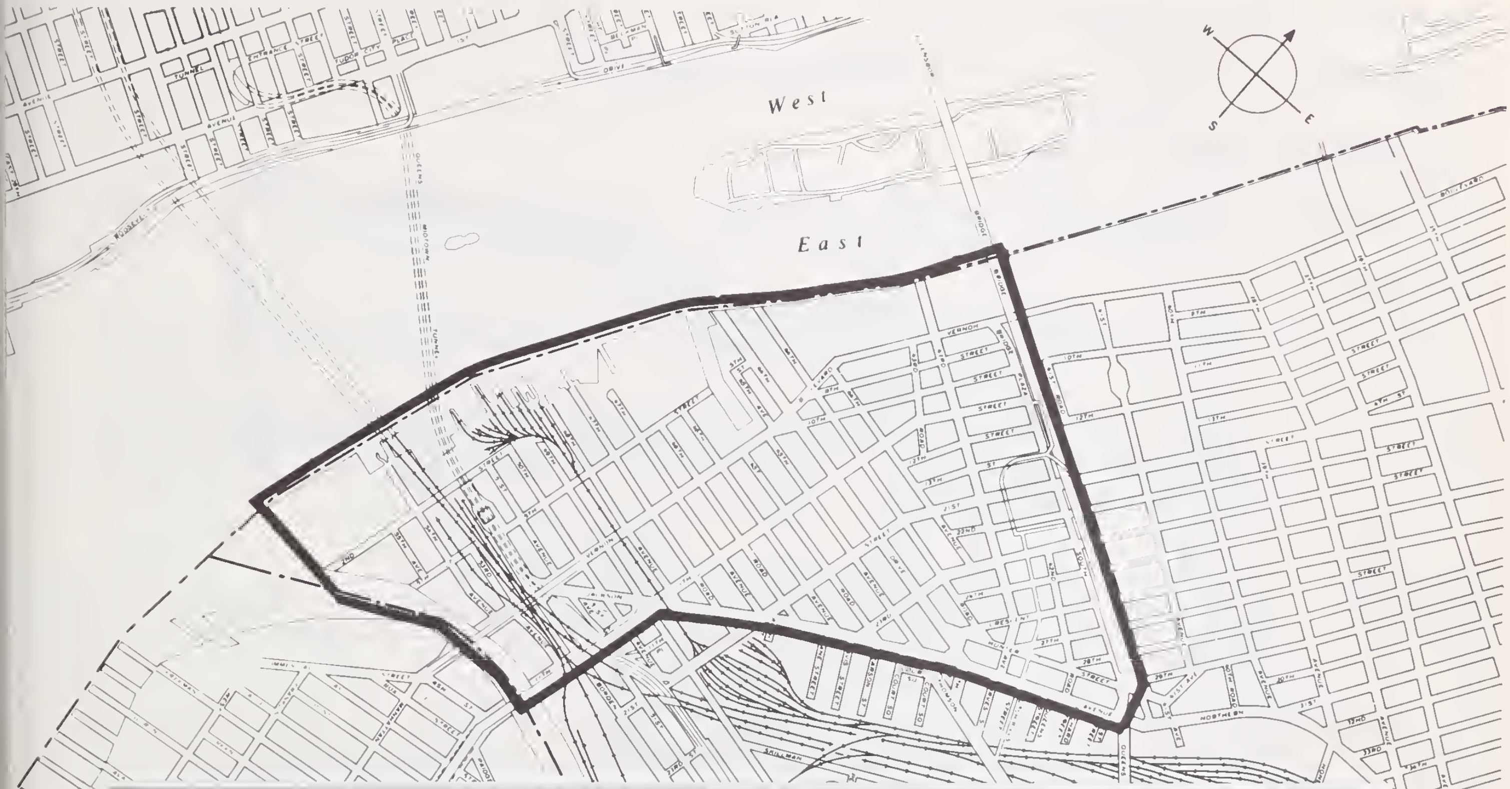
ENVIRONMENT: On-site sewer and water supply improvements necessary; Newton Creek Water Pollution Control Plan can handle additional waste; public access to river-edge park desirable; noise and air pollution locally from Queensboro Bridge and from Con Ed generating station; also in generally poor East River air zone.

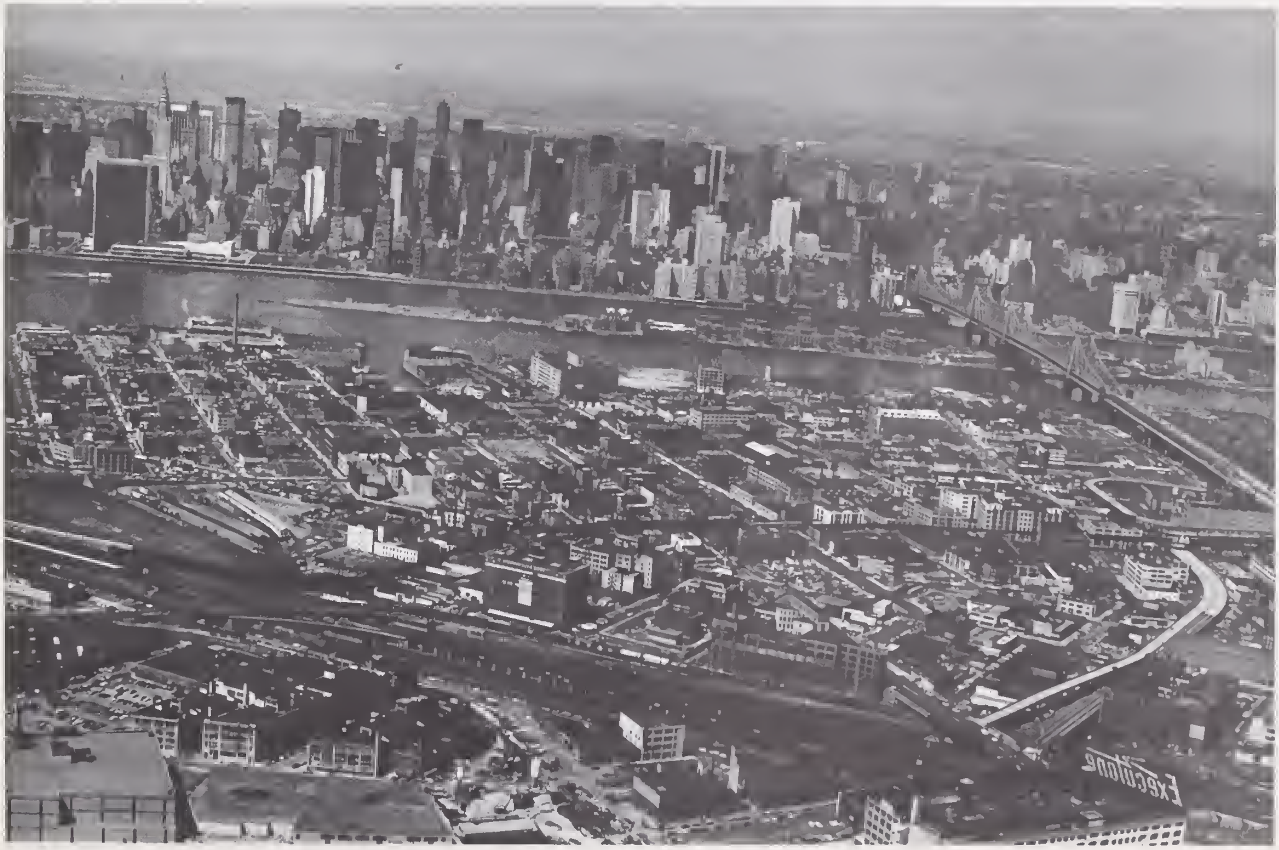
RETAIL/COMMERCIAL: No existing commercial facilities: extensive major convenience and some primary shopping necessary.

DENSITY AND SCHOOL NEEDS:

Zoning Possibilities	Number of Units	Students Generated K-4/5-8	Overload-Underload K-4/5-8
R6	11,200	4,500 3,100	+3,300 +2,517
R7	15,000	6,100 4,200	+4,800 +3,600

City View





QUEENS

SITE: Hallett's Cove

ACREAGE: Total - 68.2 Residential - 48

EXISTING ZONING: R5, R6

HISTORY: 1971, Damaz and Weigel proposal for 7,000 family community, with 400,000 sq. ft. of commercial space, and a 400-boat marina.

SITE PREPARATION: Relocation - industrial (520 jobs) and residential (250 people); landfill and bulkhead needed if site extended to bulkhead line.

FACILITIES/SPECIAL FACTORS: Rainey Park and Astoria Park adjacent; development could reopen access to park and waterfront; new West Queens High School adjacent to site; great views of East River and Welfare Island; close to Midtown Manhattan.

ACCESS: Bus service to IND, 3/4 miles away and overloaded: 2 fare zone; Queensboro Bridge 1 1/4 miles away; Brooklyn-Queens Expressway 1 mile away; Triborough Bridge nearby; development must insure pedestrian access to waterfront.

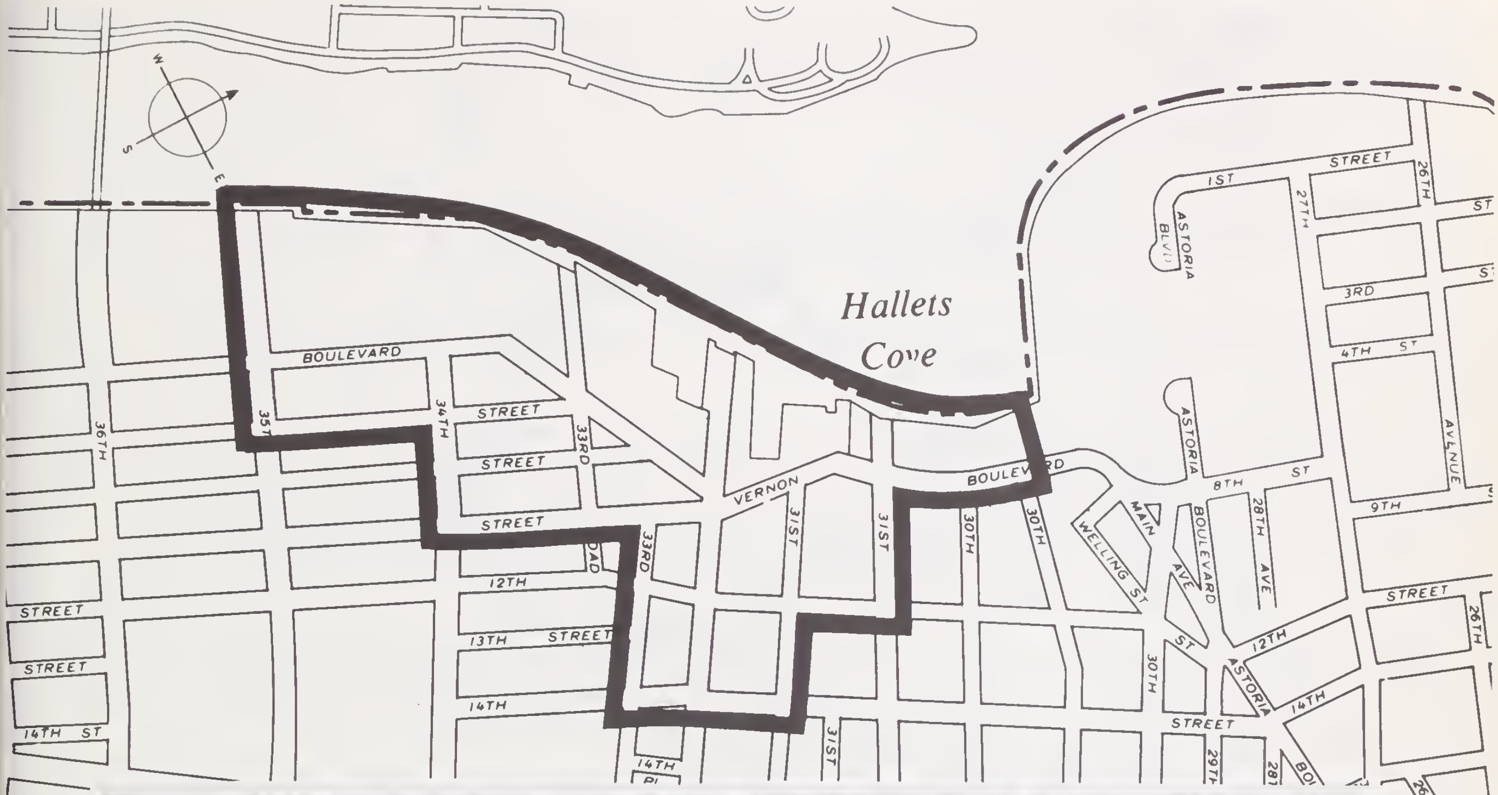
ENVIRONMENT: New water main needed for southern portion along 35th Ave.; additional sewers necessary only if landfill is used; proximity of Con Ed generator causes poor air quality.

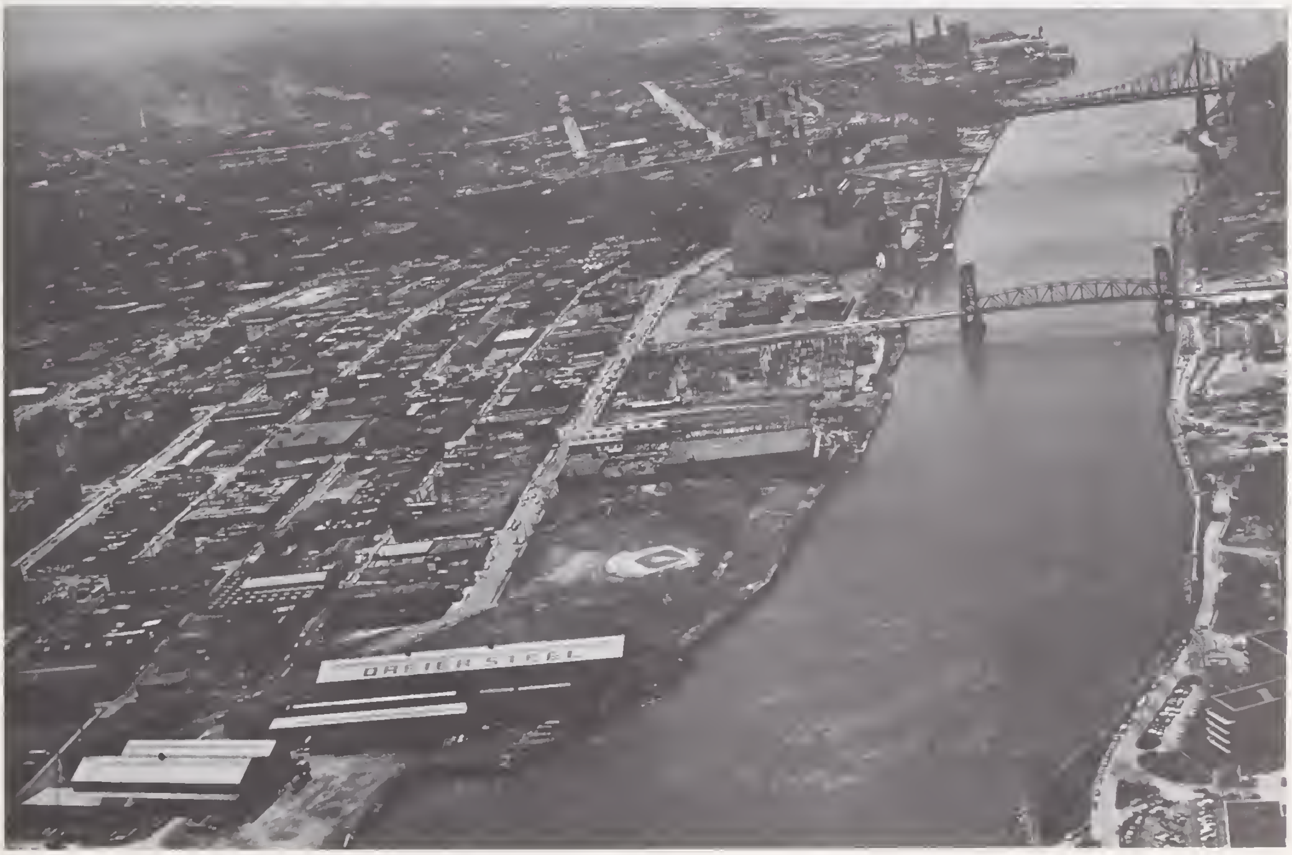
RETAIL/COMMERCIAL: Convenience shopping required on site.

DENSITY AND SCHOOL NEEDS:

Zoning Possibilities	Number of Units	Students Generated K-4/5-8	Overload-Underload K-4/5-8
R5	2,300	900	-500
		700	0
R6	4,100	1,700	+200
		1,200	+500
R7	5,500	2,200	+800
		1,500	+900
R8	9,000	3,700	+2,200
		2,500	+1,900

Hallett's Cove





QUEENS

SITE: Jamaica IND Yards

ACREAGE: Total - 30.6 acres Residential - 26

EXISTING ZONING: C8-1

HISTORY: Air rights development over the yards has been discussed by private developers and public agencies for some time. Lefrak currently interested in 4,000 unit development.

SITE PREPARATION: Decking required over active subway yard; no residential or industrial relocation.

FACILITIES/SPECIAL FACTORS: In Flushing Meadow Park near Willow Lake.

ACCESS: 1/4 mile from IND; must provide access to the Van Wyck and Grand Central parkways bordering the site. Improve pedestaian access to subway and site, now virtually impossible because it is bordered by highways and parkland.

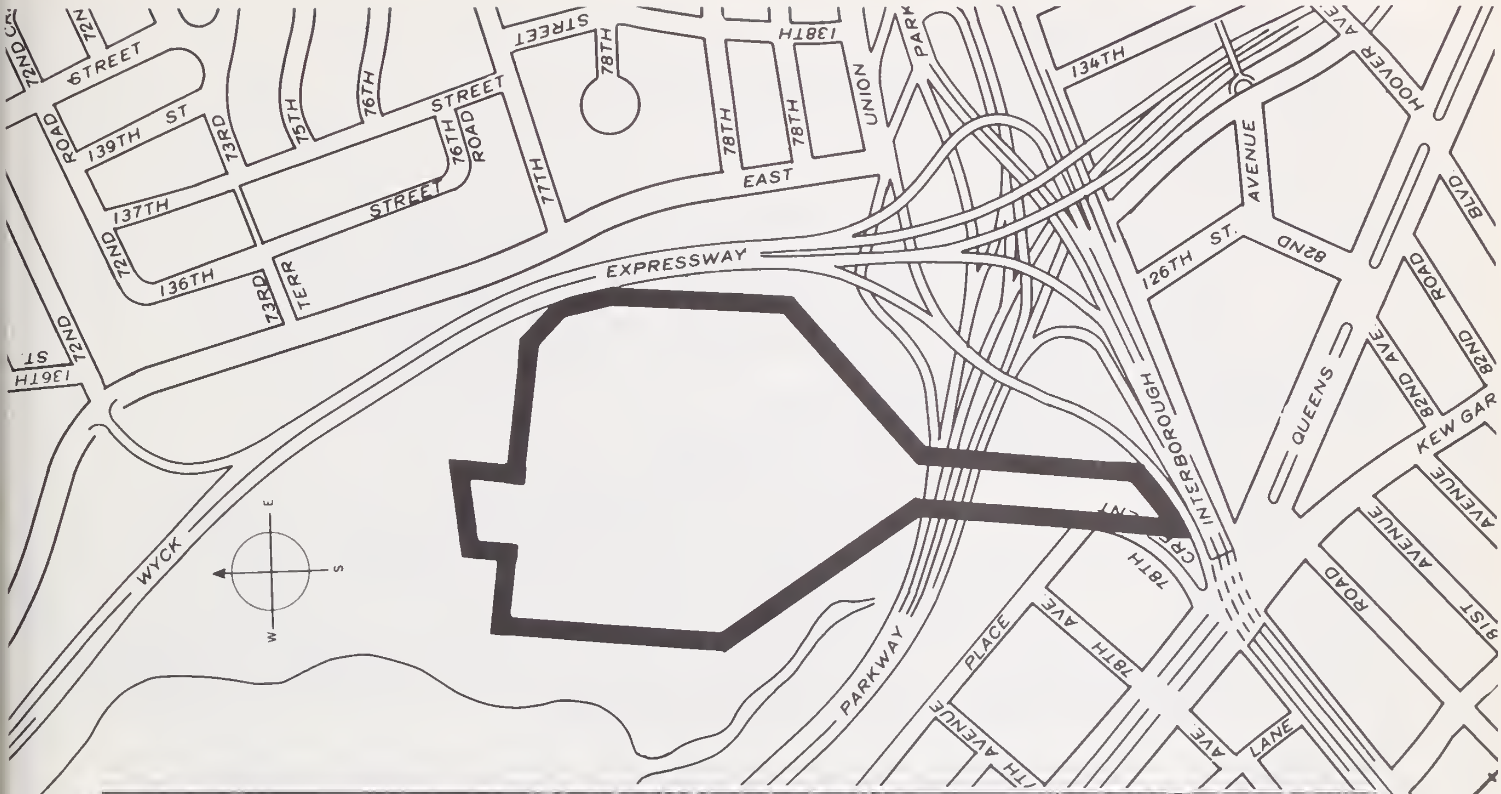
ENVIRONMENT: Platform will insulate area from noise from IND yards; sewers inadequate, new water mains needed - 15" sanitary sewer, 10" water main from Queens Blvd. and Union Turnpike; construction under the 3 expressways could be expensive.

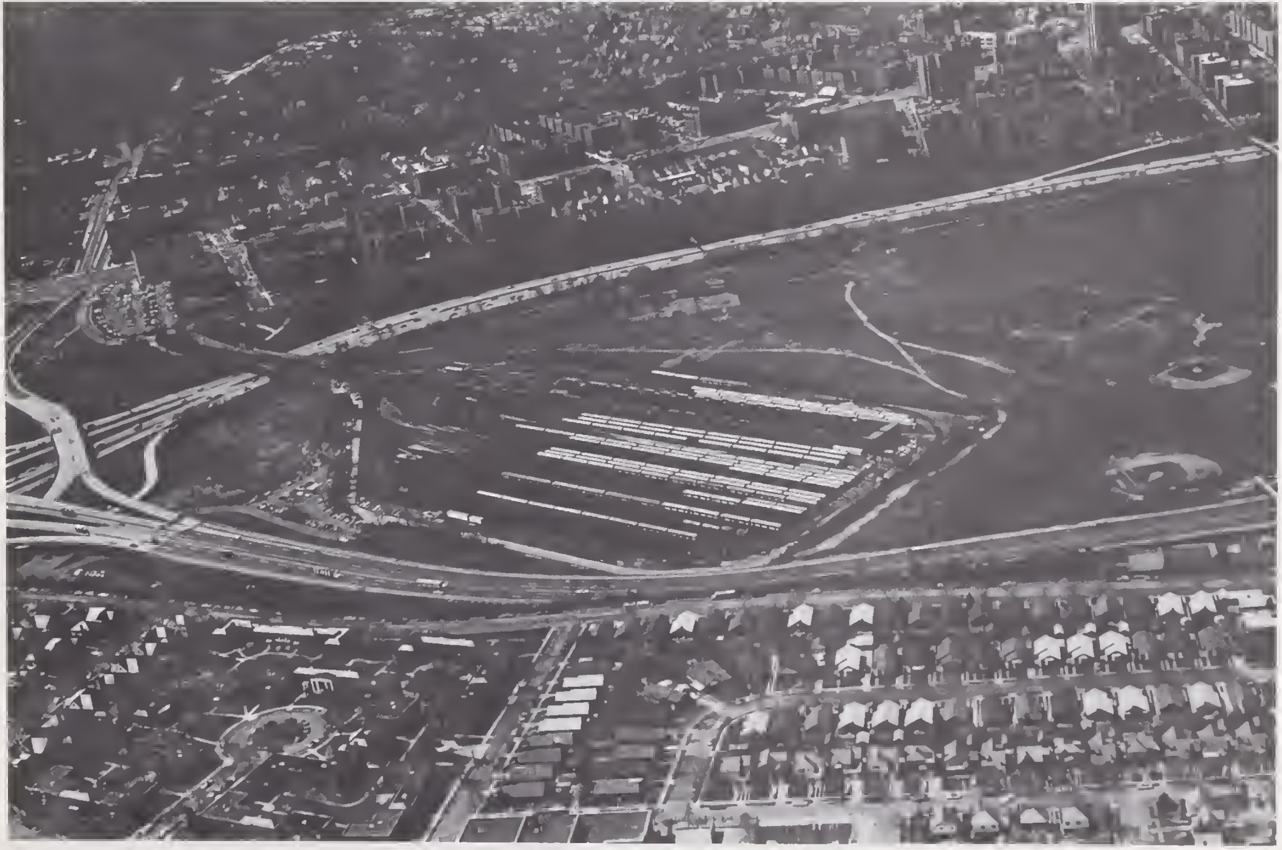
RETAIL/COMMERCIAL: Good commercial facilities on Queens and Lefferts Blvds for primary shopping; convenience shopping needed on site.

DENSITY AND SCHOOL NEEDS:

Zoning Possibilities	Number of Units	Students Generated K-4/5-8	Overload-Underload K-4/5-8
R5	1,300	600	0
		400	-400
R6	2,200	1,000	+400
		700	-200
R7	3,000	1,300	+800
		900	+100
R8	4,800	2,200	+1,600
		1,500	+700

Jamaica IND Yards





QUEENS

SITE: Sunnyside Yards

ACREAGE: Total - 300 Residential - 217

EXISTING ZONING: M1-1

HISTORY: UDC proposed development of 17,000 units, 7,000 sq. ft. of office space, 3,500,000 square feet of industrial space, 1,500,000 sq. ft. retail: would dwarf surrounding area, require major sewer and water improvements, need $500 million of capital subsidy from City. Lefrak proposed as Garment Center in 1968.

SITE PREPARATION: Decking over very active railroad yards required - poses serious engineering problems.

FACILITIES/SPECIAL FACTORS: Extensive investment necessary for infrastructure - new parks, health facilities, police and fire stations, schools, streets, sewers -- $100 + million required.

ACCESS: Within 5/8 mile of 3 subways; LIRR tracks on site; Queensboro Bridge 1 mile from corner of site; Queens-Midtown Tunnel less than 1 1/2 miles away; new internal street system required.

ENVIRONMENT: Vibrations and noise problems from active tracks; very poor sewers - new sanitary sewer 3 1/2 miles to Bowery Bay Treatment Plant needed; new water mains along Northern Boulevard needed.

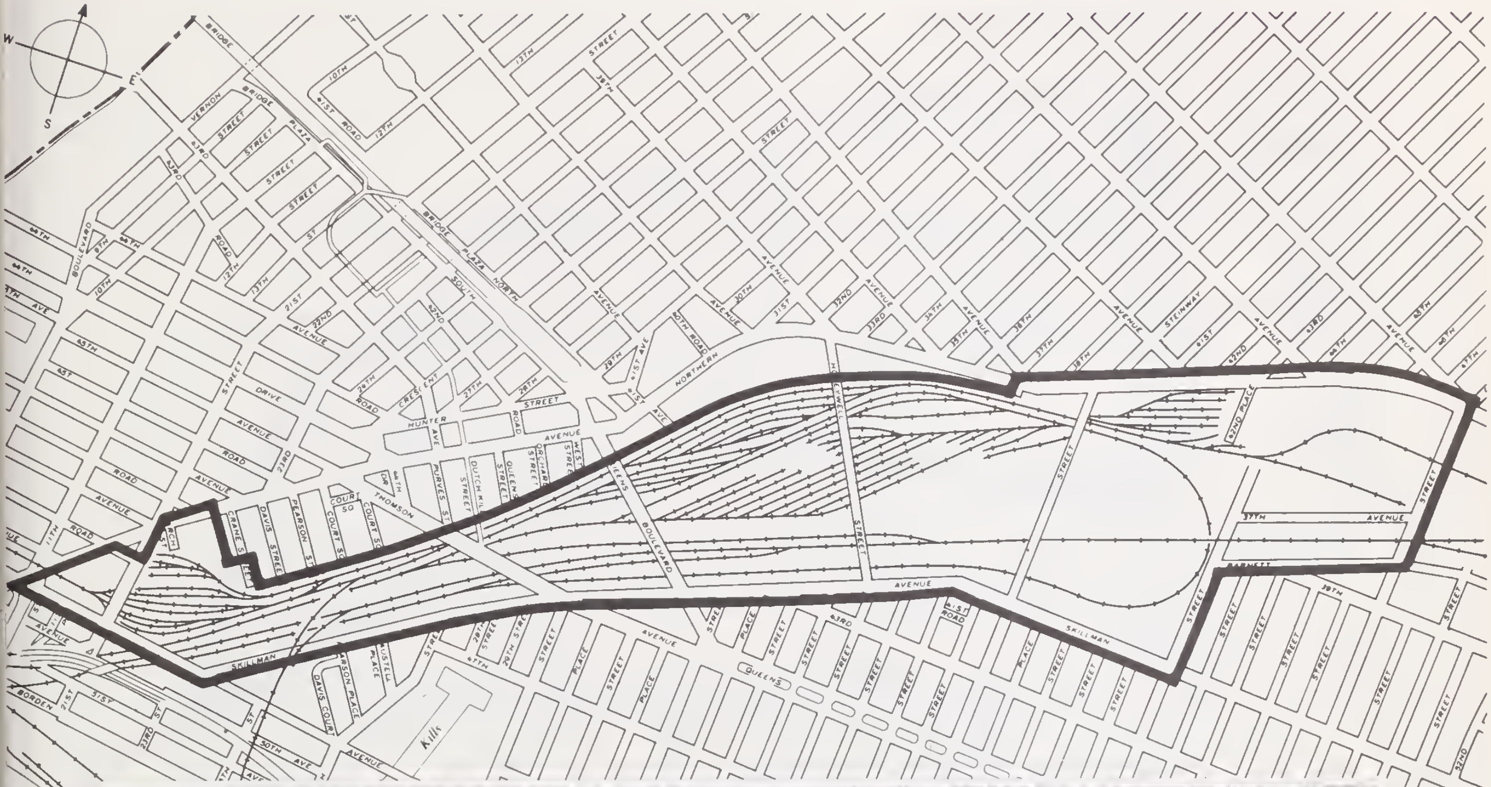
RETAIL/COMMERCIAL: Feasibility of large commercial and industrial space in question; on-site shopping facilities will cause undesirable competition with Astoria's Steinway St. and with Manhattan facilities.

DENSITY AND

DENSITY AND SCHOOL NEEDS:

Zoning Possibilities	Number of Units	Students Generated K-4/5-8	Overload-Underload K-4/5-8
		5,000	+3,300
R5	12,200	3,400	+2,900
		8,900	+7,200
R6	21,700	6,100	+5,600

Sunnyside Yards



STATEN ISLAND

SITE: B & O Railroad Yards

ACREAGE: Total - 38 Residential - 32

EXISTING ZONING: M1-1

SITE PREPARATION: Future of freight yards uncertain. Some landfill, possibly some decking, low demolition costs; single land ownership.

FACILITIES/SPECIAL FACTORS: Access to shore and waterfront esplanade to Ferry desirable; good views of Manhattan; construction should preserve these with view corridors.

ACCESS: Staten Island Ferry adjacent to site; currently inactive SIRT line through site-stops at Ferry; commuter parking at Ferry.

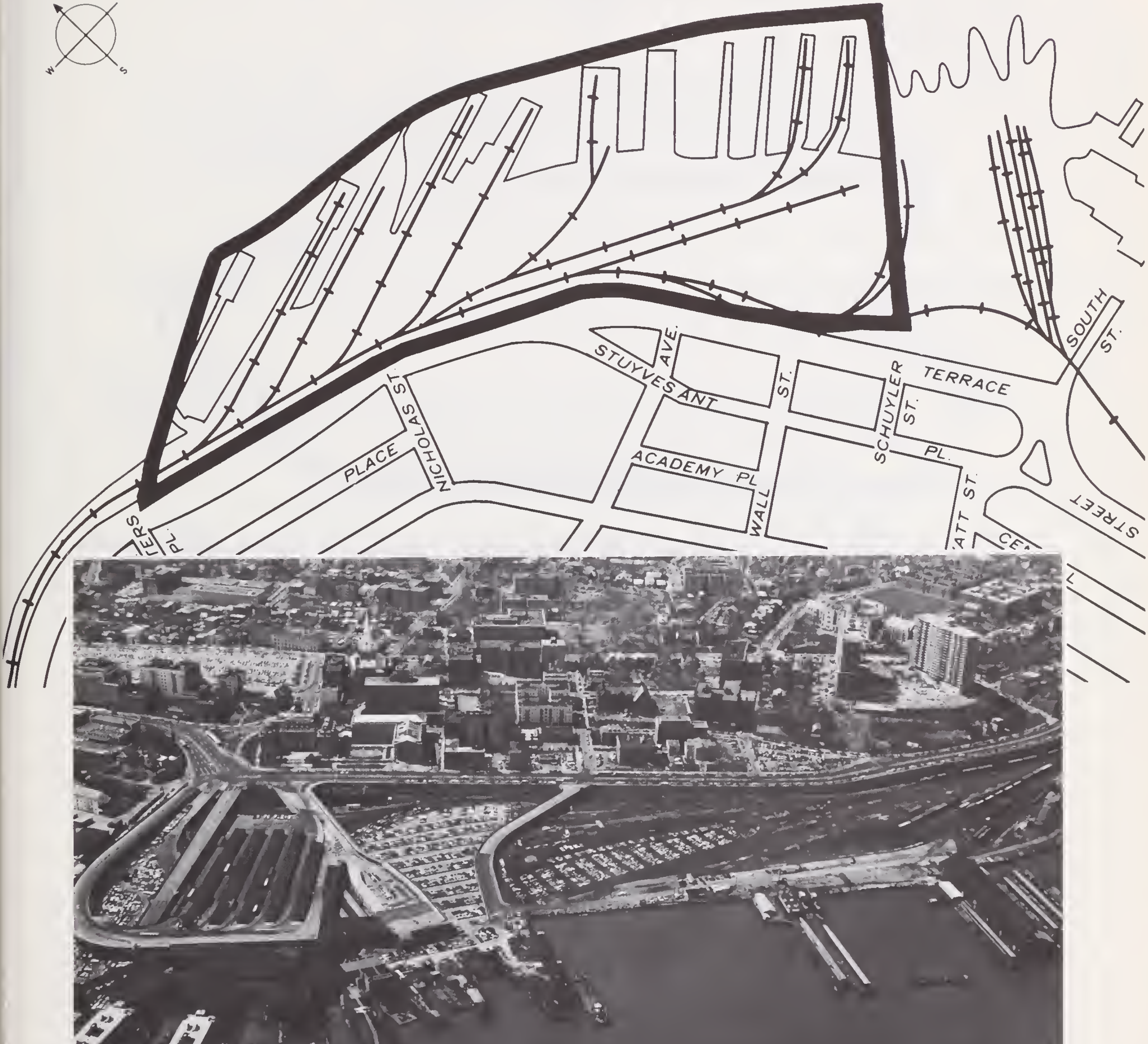
ENVIRONMENT: New Jersey industrial area across bay; noise and air problem from congestion near commuter parking; sewer system - new interceptor currently in planning would serve site.

RETAIL/COMMERCIAL: Convenience shopping needed. B & O Yards will be part of revitalization of St. George, including renovation of Ferry Terminal, construction of St. George Place and redevelopment efforts in existing downtown.

DENSITY AND SCHOOL NEEDS:

Zoning Possibilities	Number of Units	Students Generated K-4/5-8	Overload-Underload K-4/5-8
R5	1,800	600 400	+500 +400
R5 P.U.D.	2,500	900 600	+800 +600
R6	3,300	1,200 800	+1000 +800

B & O Railroad Yards



STATEN ISLAND

SITE: Fox Hills

ACREAGE: Total - 63.3 Residential - 53.8

EXISTING ZONING: R6

HISTORY: Many development proposals over the years. 1967- DeMatteis proposal for 3,000 Mitchell-Lama and 470 public housing units on 33 acres of the site. 1973 - UDC low-rise proposal area has been developed with six-story subsidized housing without other facilities; neighborhood is low-density.

SITE PREPARATION: Vacant land; piles needed in foundation.

FACILITIES/SPECIAL FACTORS: Beautiful pond in south portion surrounded by 14 acres of open space; good potential views from site; recreation needed.

ACCESS: SIRT intersects site; a new SIRT stop needed; abuts Staten Island Expressway; Verrazano Bridge 1 1/2 miles away; new streets needed; proposed North Shore Expressway near site.

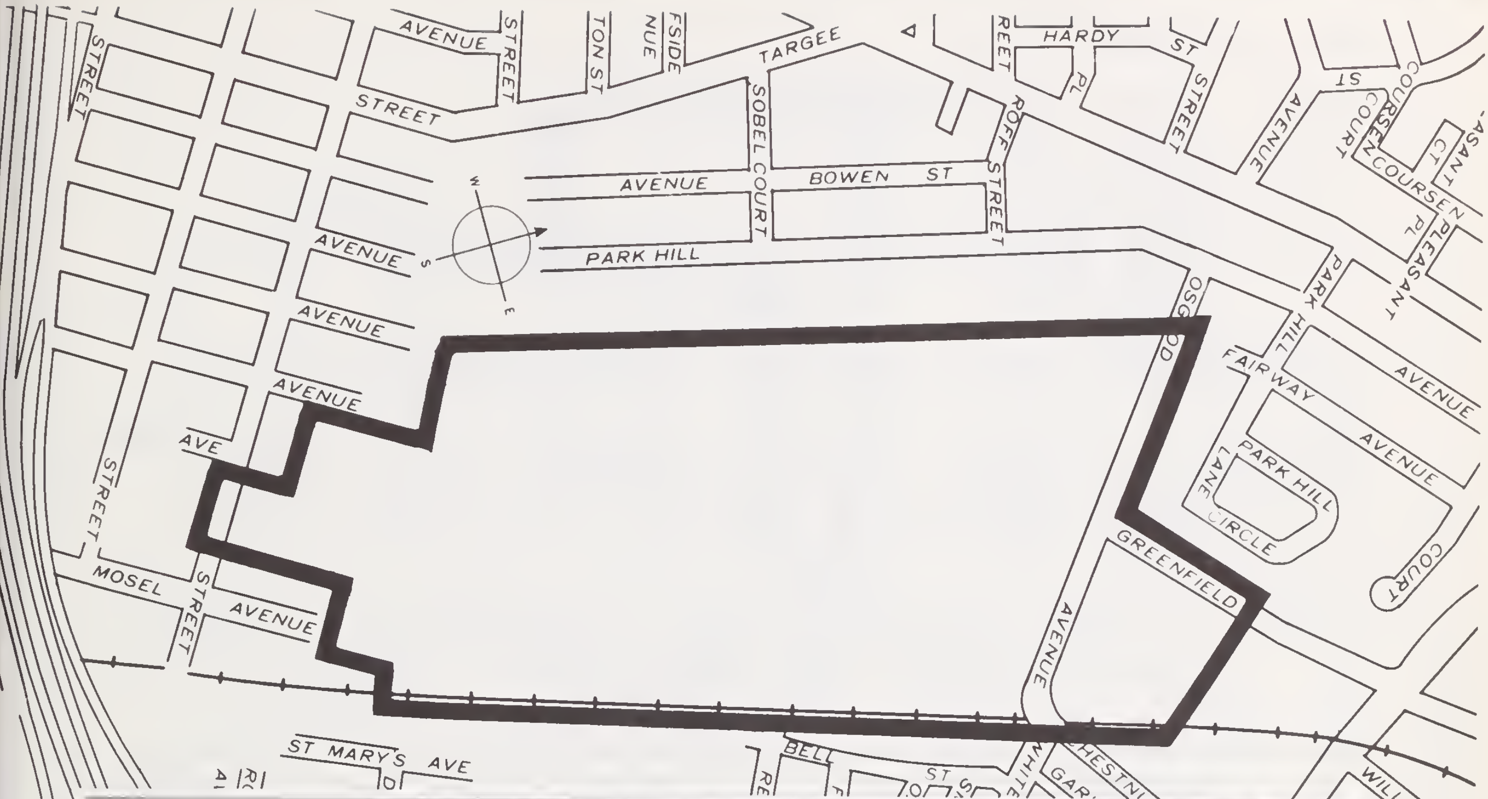
ENVIRONMENT: Storm sewer required; water main required.

RETAIL/COMMERCIAL: Minor convenience shopping needed on site; shopping center recently developed on large adjacent tract.

DENSITY AND SCHOOL NEEDS:

Zoning Possibilities	Number of Units	Students Generated K-4/5-8	Overload-Underload K-4/5-8
R5	3,000	900 600	-900 +600
R5 PUD	4,100	1,300 800	-600 +800

Fox Hills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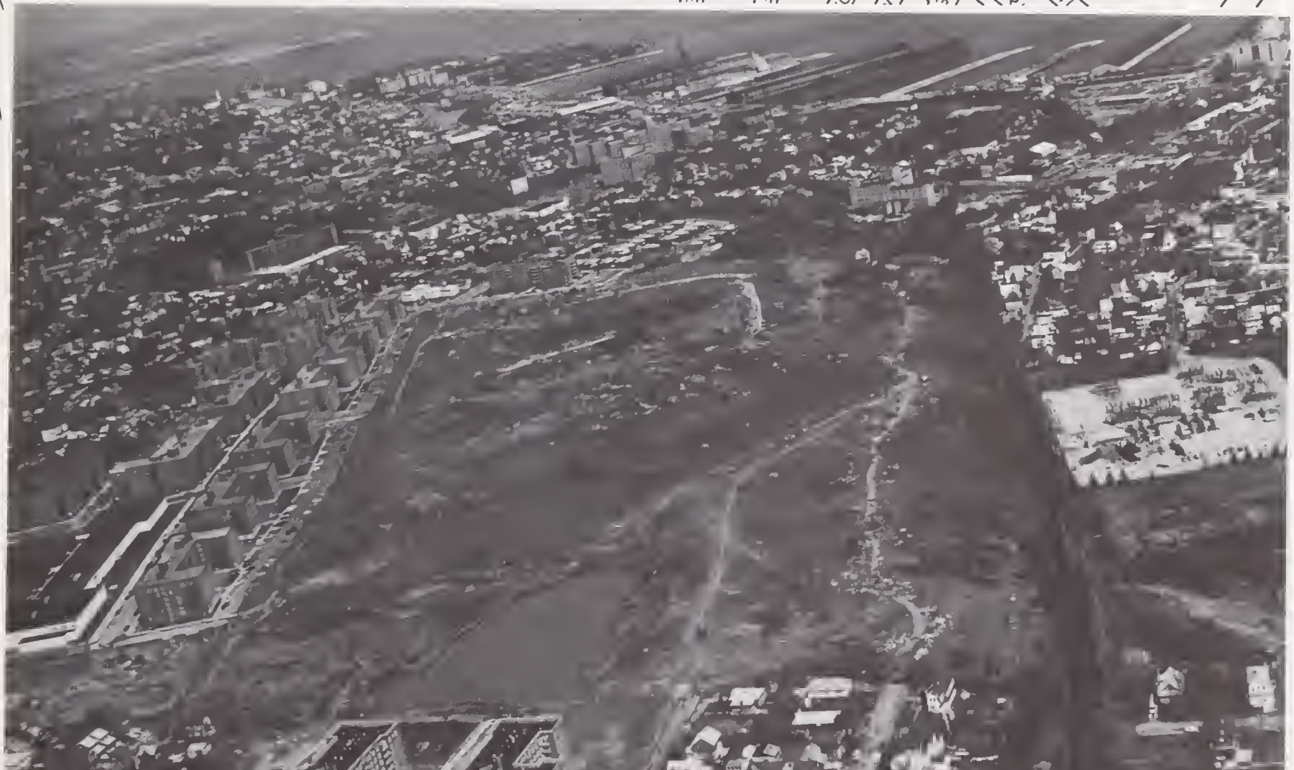


STATEN ISLAND

SITE: New Lane

ACREAGE: Total - 17 Residential - 14.5

EXISTING ZONING: R6

HISTORY: 1971 HDA proposal - 400 units Mitchell-Lama on part of site; 1972 - Devco Enterprises interested in comprehensive development of whole site.

SITE PREPARATION: Natural gas, oil and electric lines now pass through site underground; development must avoid these easements.

FACILITIES/SPECIAL FACTORS: Beautiful waterfront vistas; Von Briesen Park and Fort Wadsworth nearby; esplanade along waterfront and 100% on-site parking must be provided; Alice Austin Park in planning nearby.

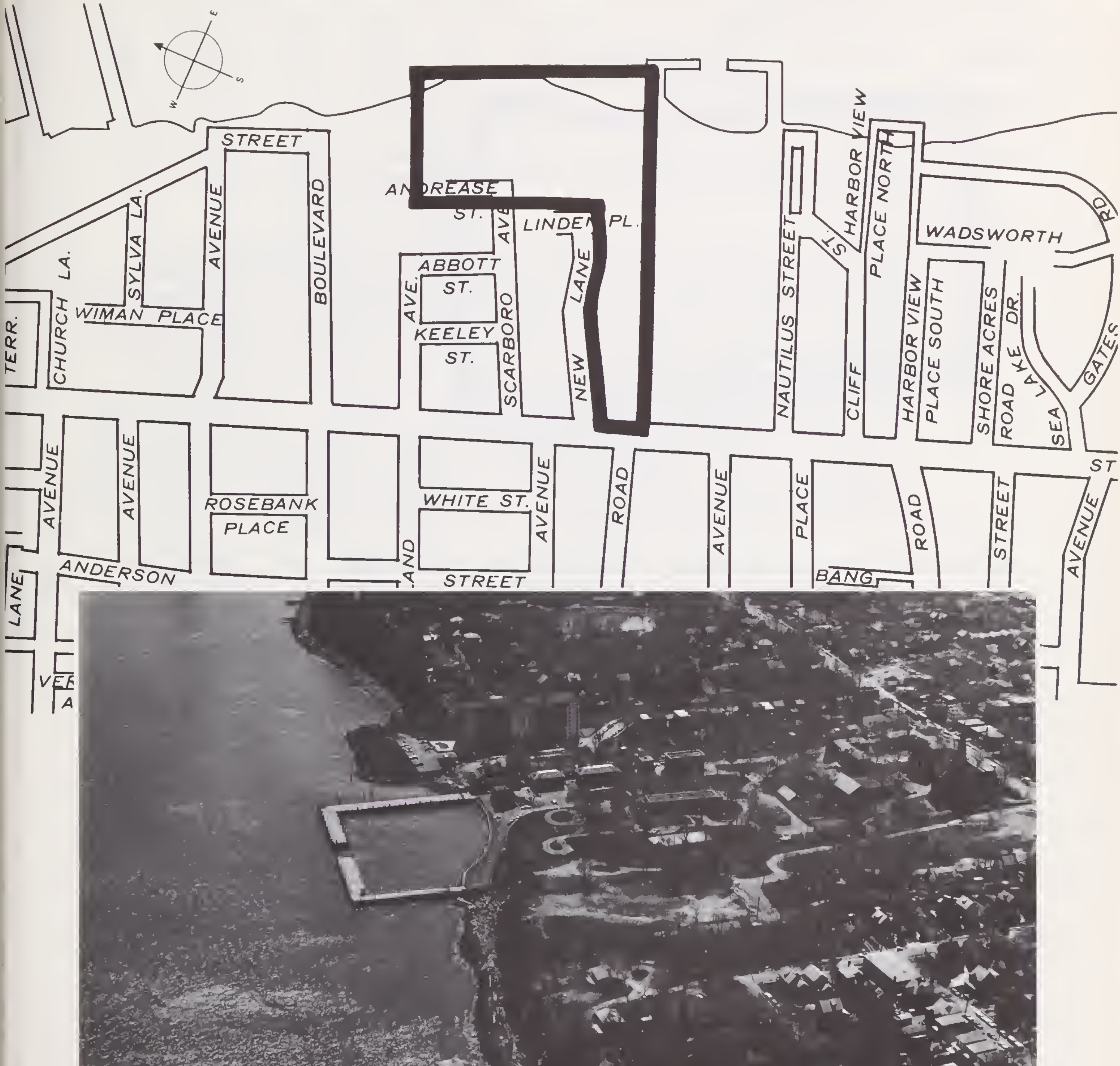
ACCESS: Less than 1 mile from SIRT; Staten Island Expressway and Verrazano Bridge 1/2 mile away; Bay Street provides good access to site; internal circulation system needed.

RETAIL/COMMERCIAL: Minor convenience retailing needed; primary shopping available 1 mile away.

DENSITY AND SCHOOL NEEDS:

Zoning Possibilities	Number of Units	Students Generated K-4/5-8	Overload-Underload K-4/5-8
		800	0
R6	1,400	400	+400

New Lane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STATEN ISLAND

SITE: St. George Place

ACREAGE: Total - 36 Residential - 20

EXISTING ZONING: R6 equivalent

SITE PREPARATION: Two-thirds of land to pierhead line is underwater; vacant warehouses and piers now on site; no residential relocation.

FACILITIES/
SPECIAL FACTORS: St. George is S.I.'s transportation, government and office center; Curtis H.S. - 101% utilization; recreation: Silver Lake Park 1-1/2 miles away; City playground adjacent; on-site recreational space should be provided; marina to be built on-site; great views of Manhattan skyline; residents can ferry to work in lower Manhattan. 2,700 unit proposal granted preliminary site approval by CPC.

ACCESS: Immediately adjacent to SIRT stop and S.I. ferry to Manhattan; buses at ferry, and along Bay Street; access will be provided to Bay Street one-quarter mile away; three miles to Verrazano Bridge; proposed expressway route will pass by site; problems of parking and circulation on surrounding narrow streets.

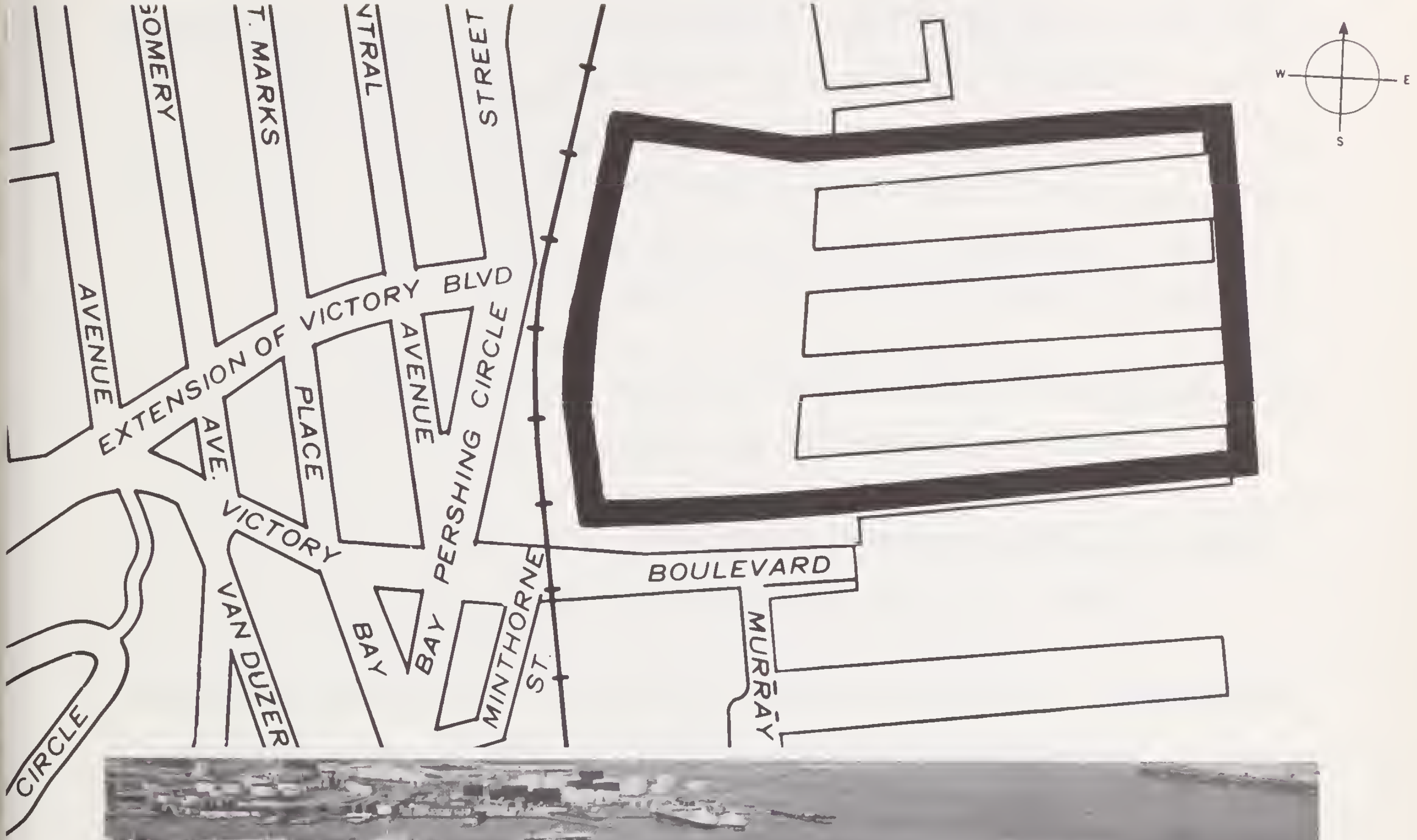
ENVIRONMENT: Extend existing water mains and sewers onto site: water, 36" pipe-easement on site; minor SIRT noise problem.

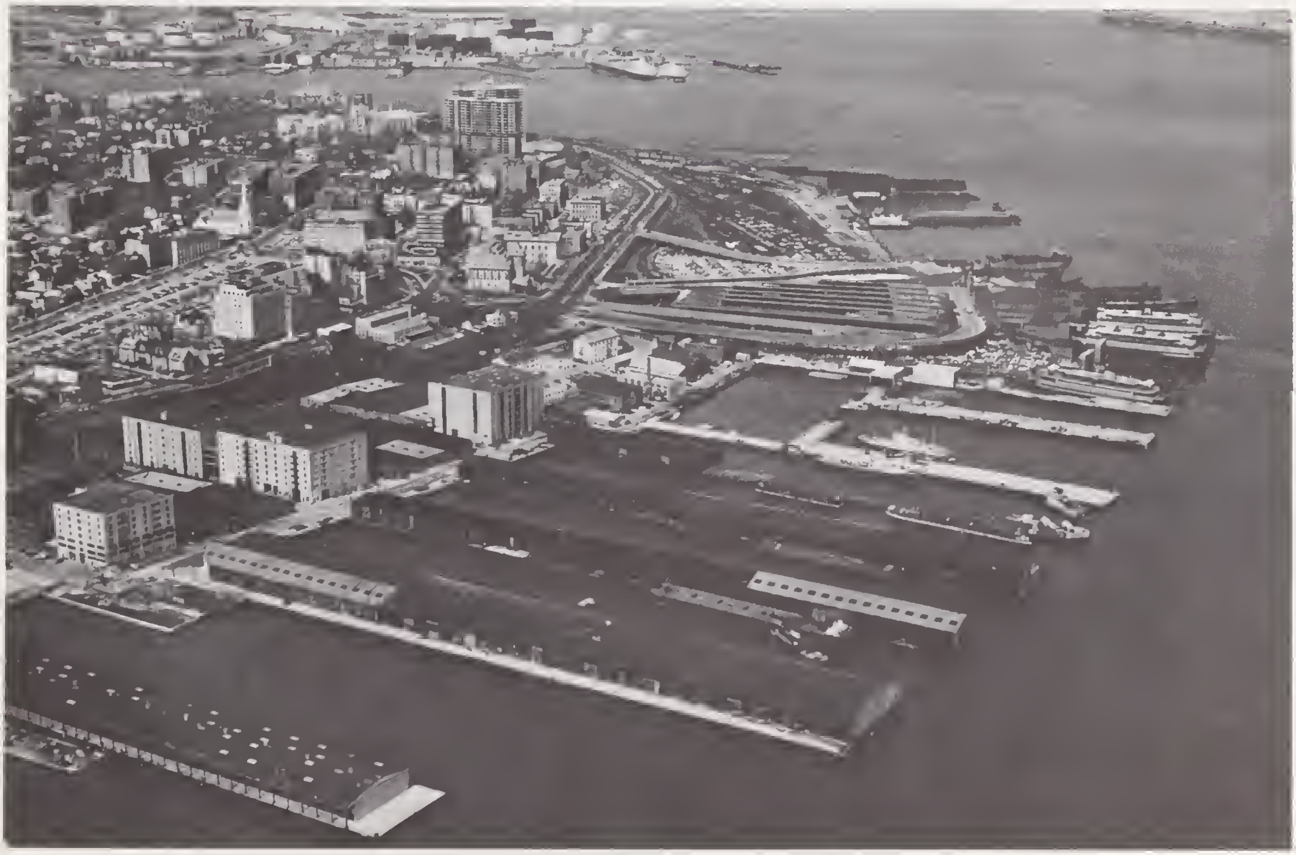
RETAIL/COMMERCIAL: Convenience and some primary shopping proposed on-site.

DENSITY AND SCHOOL NEEDS:

Zoning Possibilities	Number of Units	Students Generated K-4/5-8	Overload-Underload K-4/5-8
Commercial	2,700	300	+300
R6 Equivalent		200	+200

St. George Place





The following table, "Comparative Evaluation of Large-Scale Development Sites," summarizes the information in the preceding site analysis tables. The data is quantified in a simple format; each issue area is rated as being no problem, minor problem or major problem. These evaluations are made for present conditions. For projects approved or in construction, the analysis refers to conditions prior to development. The standards are based on the following considerations:

Relocation: amount and difficulty of relocation.

Cost per D.U.: ownership, acquisition costs, decking, landfill, foundation problems, demolition and potential density of development.

Community Facilities: nature of surrounding area, availability of parks, libraries, hospitals, police and fire stations, and so on.

School Needs: utilization of schools in the vicinity, scheduled new construction and number of students likely to be generated by development.

Rapid Transit Access: proximity of subway, express bus, or other train service, scheduled new subway construction, potential new mass transit facilities.

Vehicular Access: proximity of highways or major arterial roads, difficulty of local access due to barriers or area traffic.

Pedestrian Access: presence of barriers, isolation from neighboring communities, area traffic.

Environmental Problems: local noise and air pollution, impact of development on air, noise and water quality, power needs, waste handling demands, impact on area environmental quality.

Utility Needs: water supply and sewer systems, their condition and capacity for handling new demands.

Public Subsidy: level of subsidy demanded by marketability constraints. Low and moderate-income level requirements were classified as a major problem.

COMPARATIVE EVALUATION OF LARGE-SCALE DEVELOPMENT SITES

	Site Preparation						Access			Environment		
	Relocation		Cost per D.U.									
SITE	People	Jobs	Land	Land Preparation	Community Facilities	School Needs	Rapid Transit	Vehicular	Pedestrian	Problems	Utility Needs	Public Subsidy
BRONX												
Harlem River (Highbridge)	1	1	2	2	2	3	3	2	3	1	2	3
Harlem River Yards (Motthaven)	1	2	2	2	2	3	1	1	1	3	1	3
BROOKLYN												
Coney Island Creek	1	2	2	2	2	2	2	1	1	3	3	2
Floyd Bennett Field	1	1	1	1	3	3	3	3	3	2	3	3
Fulton Ferry	2	3	3	2	2	3	2	3	3	3	1	2
Harbor Houses	1	1	2	3	2	3	1	1	1	1	1	2
Spring Creek	1	1	1	2	2	3	3	1	1	3	1	2
Starrett City	1	1	1	2	2	3	3	1	1	3	1	3

COMPARATIVE EVALUATION OF LARGE-SCALE DEVELOPMENT SITES

	Site Preparation						Access			Environment		
	Relocation		Cost per D.U.									
SITE	People	Jobs	Land	Land Preparation	Community Facilities	School Needs	Rapid Transit	Vehicular	Pedestrian	Problems	Utility Needs	Public Subsidy
MANHATTAN												
Battery Park City	1	1	1	3	2	3	1	1	2	2	2	2
Manhattan Landing	1	1	1	3	1	2	1	1	1	2	2	1
Manhattanville West	1	3	3	3	2	2	1	2	1	3	1	3
Sherman Creek	1	3	2	3	2	3	1	1	1	2	2	3
Welfare Island	1	1	1	1	3	3	3	3	3	1	3	2
West 30th St. Yards	1	1	2	3	2	2	1	1	1	3	1	3
West 60th St. Yards	1	1	2	3	1	2	1	1	1	1	1	1
QUEENS												
City View	3	3	2	3	2	2	1	1	2	2	2	2
Hallett's Cove	2	2	1	2	1	2	2	1	1	2	1	1

Legend

No Problem	1
Minor Problem	2
Major Problem	3

COMPARATIVE EVALUATION OF LARGE-SCALE DEVELOPMENT SITES

	Site Preparation						Access			Environment		
	Relocation		Cost per D.U.									
SITE	People	Jobs	Land	Land Preparation	Community Facilities	School Needs	Rapid Transit	Vehicular	Pedestrian	Problems	Utility Needs	Public Subsidy
Jamaica IND Yards	1	1	1	3	2	2	2	2	3	1	2	1
Sunnyside Yards	1	1	1	3	3	3	1	2	1	2	3	1
STATEN ISLAND												
B & O Railroad Yards	1	2	2	3	2	3	1	2	1	2	2	1
Fox Hills	1	1	2	2	2	2	3	1	1	1	2	2
New Lane	1	1	1	3	2	2	3	1	1	1	1	1
St. George Place	1	1	1	3	1	2	1	2	1	2	2	1

LEGEND

No Problem	1
Minor Problem	2
Major Problem	3

PART 3

Policy Alternatives

This workbook has provided a background of information and analysis from which policies on large-scale development can emerge. The policy alternative section should be used by workshop participants as a springboard for discussion. The issue areas outlined below relate to specific chapters of the workbook. They should be considered in terms of the City-wide implications of large-scale development. The policy alternative suggestions are intended to be neither comprehensive nor binding, but rather to stimulate thought and participation. The section is divided into the following issue areas:

I. Urban growth patterns - incremental development, City involvement, infrastructure, and Capital Budget;

II. Public funds and subsidies - land acquisition, construction subsidies, tax abatement, and competition with redevelopment areas;

III. Social factors - mixed-income communities, migration patterns within the City, and neighborhood transition;

IV. Environmental control - noise and air quality, power burdens, sewer systems, solid waste, and the quality of life;

V. Zoning and land use controls - mandatory review and zoning designations, zoning for infrastructure and community facilities, design and density controls.

I. URBAN GROWTH PATTERNS

A. Should the City actively encourage planned development of large-scale sites rather than allow the piecemeal approach of the past to continue?

Alternatives

1. A planned development policy could restrict or encourage development of specific large-scale sites, based on evaluative criteria. The City could assist in land assemblage, write-down or other subsidies for desirable projects; it could use zoning and other tools to discourage undesirable ones.

2. The City presently has no mandatory policy for controlling or encouraging large-scale development. Each project is considered on its specific merits. This approach could be continued.

B. How much weight should the City attach to infrastructure costs in evaluating large-scale developments?

Alternatives

1. The City could favor projects in areas with adequate existing infrastructure, and secondarily, those in areas with relatively low infrastructure costs.

2. The City could restrict projects that over-burden existing resources.

3. The City could judge projects on their merits, disregarding infrastructure costs.

C. How should infrastructure be provided, and who should pay?

Alternatives

1. The City could provide all needed infrastructure when fiscally feasible.

2. The City and the developer could share the costs of infrastructure, based either on some sharing formula or a negotiation process.

3. The developer could be allowed to build only if he provided the necessary infrastructure.

4. The City could employ all the above policies in combination, based on the desirability of projects, e.g., C-1 above for the best developments.

II. PUBLIC FUNDS AND SUBSIDIES

A. How should public funds and subsidies be allocated to large-scale developments?

Alternatives

1. Certain subsidies require a direct expenditure or use of public funds. These include land write-down, mortgage subsidies and loans, and seed money. Some proportion of these funds could be allocated for large-scale developments.

2. Other subsidies require no expenditure - land assemblage assistance and tax abatement. These could be used for projects which meet pre-determined criteria, such as providing a certain proportion of low- and moderate-income units.

3. The City could refrain from all direct subsidies to large-scale projects due to the prior competing needs of major action areas. Indirect subsidies could still be provided.

4. The City could land-bank desirable sites which are presently infeasible for development.

5. The above policies could again be used in combination based on the desirability of sites.

III. SOCIAL FACTORS

A. How should the City seek mixed-income occupancy of large-scale developments?

Alternatives

1. The City could require all large-scale projects to have a given range of income levels. This policy would be particularly restrictive if competition with major action areas for subsidies was also disallowed (Alternative II-A-3 above).

2. The City could designate certain large-scale sites for partial or total low- and moderate-income occupancy, though these might not become feasible for some time.

3. Extending this policy (#2), not all projects would necessarily have mixed occupancy, but large-scale developments taken as a whole would provide for a broad range of income levels.

4. The City could encourage large-scale developments for middle- and upper-income residents, allowing older housing to filter to poorer families. The goal of equal housing opportunities might conflict with this policy.

B. Should the City approve large-scale projects which might draw higher-income residents from older neighborhoods, thereby adversely affecting the stability of these areas?

Alternatives

1. If certain new developments could be demonstrably linked to undesirable changes in the character of older neighborhoods, the City would approve such projects only if City resources, such as the Neighborhood Preservation program, were available to ameliorate the disruptive aspects of transition.

2. The City could view desirable large-scale projects as good in themselves, and encourage them as a means of providing additional housing.

IV. ENVIRONMENTAL CONTROL

A. How should the City cope with the electric power burdens caused by large-scale developments?

Alternatives

1. Minimal restrictions could be imposed on new power demands. All-electric projects might be forbidden. Large-scale projects could be prohibited in especially over-burdened parts of the City.

2. The City could encourage more innovative power supply systems. Total energy plants could be encouraged or required whenever feasible. Solar energy and alternate fuels could also be investigated.

3. Electricity meters could be installed for individual tenants in large-scale projects. This might reduce power consumption.

4. The City could allow power demands to develop essentially unchecked.

B. Should the City encourage improved methods of waste handling in large-scale projects?

Alternatives

1. Developers could continue to devise methods for each project with the appropriate City agency. This would tend to perpetuate conventional practices.

2. The City could encourage the use of compactors, pneumatic collection and other innovative means of solid waste handling. This can be done through incentives or guidelines.

3. If a large-scale project would lower liquid waste handling standards and increase water pollution, the developer could be required to upgrade existing treatment facilities.

4. Given the same situation as in #3, the City could pay for the improvements or forbid the development.

C. Can the City use large-scale development to improve overall environmental quality, specifically through changes in land use?

Alternatives

1. The City could encourage large-scale development in particular areas where environmental deficiencies or blight could be reduced by housing. These could include decaying or unused waterfront and transit yards.

2. The City could restrict large-scale housing development to as-of-right construction in residential areas. It could attempt to preserve all available open space, and refrain from rezoning industrial land for residential purposes.

3. The City could judge proposals on their merits, and attempt to resolve the competing pressures for housing, open space and industry on a case by case basis.

D. How can the City reduce air and noise pollution caused by large-scale development, beyond the requirements of environmental law?

Alternatives

1. The City could restrict developments that would generate significant vehicular traffic. This could be accomplished by favoring projects with mass transit service, either existing or potential.

2. New parking regulations could be drafted to reduce the number of spaces allowed in a project. This might deter residents from owning cars, and would be practical only if public transit were available.

3. The City could prohibit on-site incinerators and heat generators.

4. The City could rely on the general pollution control programs now in operation and not apply special regulations to large-scale projects.

V. ZONING AND LAND USE CONTROLS

A. Should the City adopt mandatory or other formal controls to regulate large-scale development, beyond the present Zoning Resolution?

Alternatives

1. The City could proceed under current regulations. Most large-scale developments require some form of City approval, which enables the City to influence the planning process.

2. Administrative guidelines could supplement the Zoning Resolution. Design and infrastructure standards could be used just as guidelines for subsidy allocation and environmental control. This would allow negotiation and compromise to occur. These standards could vary among sites.

3. The City could establish new incentive programs like PUD to encourage developers of low or high density projects to provide infrastructure and community facilities as well as better design. The City would then regulate development through an interplay of guidelines and specific zoning requirements.

4. The City could adopt a mandatory zoning provision for large-scale sites. This "floating zone" could dictate basic requirements and grant bonuses in exchange for amenities and facilities. The zone could be mapped selectively on a few sites or apply to all sites and projects over a given size. It could be a mandatory PUD or a new provision.

5. Mandatory zoning for infrastructure and community facilities could taken the form of a development easement system like the Ramapo Plan. The City could attempt to implement such a plan for selected large-scale sites in residential zones.

6. Mandatory zoning for design could be implemented through the Zoning Resolution or through the establishment of a design review board for large-scale projects. A review board could respond to the diverse needs of many sites and projects without diminishing regulatory strength.

B. Should the City adopt development plans for some or all large-scale sites without the presence of interested developers?

Alternatives

1. A development plan would be adopted by the Planning Commission after the advice of Community Planning Boards. Any developer who wished to build on a site would have to conform to the conditions of the plan, but would require no further approvals. For example, they would not be subject to a design review board.

2. Development plans could be adopted for some sites but subject to amendment upon the request of specific developers, similar to the process now followed for Urban Renewal Plans.

3. Development plans would only be used on sites where they would not make development economically infeasible.

4. Rather than adopting development plans in the absence of real developers, any developer interested in a particular site would submit his plans for review by the City and community. This is the present system.

5. These policies could be used in combination. Development plans are appropriate in some situations, but not all.

APPENDIX

The Planned Unit Development provisions of the Zoning Resolution, as amended, are explained in detail in the City Planning Commission's report of January 17, 1973. The consideration is reprinted in full below.

The proposed amendment is designed to encourage the construction of more planned unit developments by allowing such development in R5 districts. New incentives will also be granted to insure that required community facilities are built as part of these projects to foster larger room sizes and to encourage provisions of enclosed parking areas.

BACKGROUND

The Planned Unit Development (PUD) concept, approved in 1967, aims at achieving better design, and a better environment, in new residential projects. It encourages developers to preserve the landscape and provide common open space available to all residents of the community. It fosters preservation of trees, hills and streams as well as the provision of an efficient and safe street system. It means less asphalt and more grass. It was limited to low-density R1 to R4 districts.

Since passage of the new regulations, eight projects have been approved by the Planning Commission and Board of Estimate.

Bonuses have been given in return for providing good site plans, usable open space, and preserving natural features.

NEW PROPOSALS

The proposed amendment seeks to expand the possibilities for achieving this kind of development by extending the concept to R5 districts. The same good design principles can be effectively adapted to the building types and kind of development predominant in that district. Extending the PUD concept to R5 districts, in effect, also means extending its reach beyond Staten Island where most such development has until now taken place. Various sections in other boroughs, particularly Queens, would be able to take advantage of its provisions for better **designed** communities.

In expanding the areas where PUD's could be built, it is also essential to provide a mechanism so that applications can be processed expeditiously. To achieve this, the Mayor has ordered the creation of the Staten Island Planned Unit Development Implementation Council. This body consists of representatives of the City agencies involved in the PUD approval process including the Director of the Office of Staten Island Development, the Richmond Borough President, the Chairman of the City Planning Commission, and the Administrators of agencies concerned, such as the Buildings and Highways Departments. The Council's purpose is to expedite the implementation of PUD's from the time of preliminary approval by the City Planning Commission until these projects are occupied. It meets at the discretion of its chairman to work out problems which may impede the progress of a PUD.

In addition, a single hearing, by the City Planning Commission, would be required under the new provisions for small PUD's (under four acres), which have a minimal impact on community facilities. The Commission must still find that these facilities will not be overburdened by such a development.

Planned Unit Developments of four acres or more - larger than a standard City block - do have a noticeable effect on community facilities. The City, hard-pressed for capital construction funds, must ensure that the facilities supportive of much-needed housing are provided. Developers of large PUD's will be required to build school space, and lease it to the City at no cost if needed, or such other community facilities as may be required. The floor area bonus granted for provision of school or community facility space would be directly proportional to the cost of providing the amenity.

OTHER CHANGES

In addition, under the new provisions, PUD developers in R3-2 districts would be able to choose an optional bonus of larger rooms and in R4 and R5 districts a second optional bonus of enclosed parking. Large rooms not only increase the marketability of new housing, but also represents a long-term increase in the quality of a neighborhood's housing stock. The number of rooms allowed in R3-2, R4, and R5 districts is computed on the basis of the floor area permitted. If a developer increases by specified amounts, the floor area per room in his development over that required by the new infill provisions, a floor area bonus will be granted to compensate for the extra floor area supplied in the expansion of room sizes. In granting this bonus, the Commission will also monitor the plans to ensure that the larger rooms result in better layouts.

Parking is often a problem in site planning. To this end, a floor area bonus compensating for the cost of providing a solution will be granted. In R4 and R5 districts, a developer wishing to take advantage of this bonus must provide at least two-thirds of his required parking in a covered structure or structures. Parking may be enclosed in a separate parking structure or in an attached garage, or in a combination of the two. This solution, we feel, will increase the amounts of both visual and usable open space in Planned Unit Developments. We believe that there is no need for such a provision in R3-2 districts, as the predominant building type usually includes attached garages without the need for any compensation. The market demands a garage in a three-story building and an additional space will be provided in most cases in the driveway, a condition legalized and improved upon by the infill zoning provisions. Therefore, we have excluded R3-2 from this bonus.

PUBLIC HEARING

On April 26, 1972 (cal. #12) the Commission scheduled a PUBLIC HEARING on the proposed amendments. The hearing was duly held on May 17, 1972 (cal. #54). The changes were supported by those addressing themselves to this component of the infill package. No one spoke in opposition. Among the speakers in favor were representatives of the Community Service Society, the Citizens' Housing and Planning Council, and Queens Community Planning Board No. 10. A representative of the Architects' Council of New York City called attention to what he felt was the ambibuity of the definition of a "good site plan." The hearing was closed. A communication in favor of the proposal has been received by the Commission from the American Institute of Planners.

CONSIDERATION

The Planned Unit Development concept has worked successfully. New, well-designed communities are being developed that provide good housing and respect the environment. We believe the changes outlined in these amendments will extend the advantages of the approach to new areas (and along with the new Mayor Implementation Council, will help expedite the process of government review.) This is particularly important to encourage developers to build under its provisions when delay can mean a cost escalation of one per cent per month.

While the definition of a good site plan has not been troublesome, we believe it may be useful to sharpen certain aspects. We have listed additional criteria to be met. For example, recreation areas must be physically and visually accessible to all parts of the development. There are more detailed standards for the location and size of active and passive recreation areas.

The new provisions will not apply to lots subdivided to under four acres after 1 January 1972 or to Planned Unit Developments which have been granted authorizations by the Commission before 31 July 1972. The first is intended to prevent evasion of the essential requirements imposed on large developments. The second will avoid reopening of plans which the Commission has already approved. In many cases, construction is in progress and commitments have been made to the local community by developers and the City alike.

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Special thanks to Alan Beller, Gary Friedman and Con Howe.

Research and assistance provided by: Robert Adamski, Eve Ardizone, Paul Baity, William Burton, Syrette Dym, Juan Leon, Jerry Olanoff, William Rossbach, Bethami Probst, Philip Sacks (graphics), Henry Nicholas, Hedy Klein, Vitaly Sorokin, Stanley Shabronsky (photos), Richard Singer, Douglass Smith.